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TWENTY-NINTH

ANNUAL REGISTER

1919-20

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OFFICE DIRECTORY

[The rooms in the Inner Quadrangle are numbered consecutively, beginning at the left of the main entrance, ten numbers being allotted to each building. In the Outer Quadrangle forty numbers are allotted to each of the larger buildings and ten numbers to each one-story building, beginning with the Assembly Hall (number 120). The Administration Building is on the north facade of the Outer Quadrangle. The Engineering buildings south of the Quadrangles begin with number 500. The Library is the central building in the second quadrangle group. The Chemistry building is on the west avenue between the Quadrangles and the Museum. Anatomy and Bacteriology are in the old Museum building.]

The administration officers are:

PRESIDENT, room 165.
COMPTROLLER, room 163.
REGISTRAR, room 164.
DEAN OF MEN, room 161.
DEAN OF WOMEN, room 162.
LOWER DIVISION COMMITTEE, room 161.
ACADEMIC SECRETARY AND ALUMNI SECRETARY, room 174.
LIBRARIAN, University Library.
APPOINTMENT SECRETARY, room 170.
MEDICAL ADVISER OF MEN, Encina Gymnasium.
MEDICAL ADVISER OF WOMEN, Roble Gymnasium.
COMMITTEE ON PUBLIC HEALTH, room 164.

The various Departmental offices are given in the SCHEDULE and in the DIRECTORY OF OFFICERS AND STUDENTS.

The University Post Office is *Stanford University, California.*

The University Telephone Office is *Palo Alto* (Office and Departmental telephones "Palo Alto 900" with local numbers added).

The University Railway Station and Telegraph and Express Offices are *Palo Alto, California.*

Requests for *University Bulletins,* blanks, and other printed matter, and inquiries regarding terms of admission, advanced standing, etc., should be addressed to THE REGISTRAR, *Stanford University, California.*

UNIVERSITY CALENDAR

1919

AUTUMN QUARTER

Oct.	1	Wednesday	Registration for Autumn Quarter
Oct.	2	Thursday	Instruction begins.
Oct.	5	Friday	Conferring of Degrees.
Nov.	27	Thursday	Thanksgiving Recess
Nov.	30	Sunday	
Dec.	17–19	Wednesday–Friday	End-Quarter Examinations.

1920

WINTER QUARTER

Jan.	5	Monday	Registration for Winter Quarter.
Jan.	6	Tuesday	Instruction begins.
Jan.	9	Friday	Conferring of Degrees.
Feb.	22	Sunday	Washington's Birthday.
March	9	Tuesday	Founders' Day.
Mar.	24–26	Wednesday–Friday	End-Quarter Examinations.

SPRING QUARTER

April	5	Monday	Registration for Spring Quarter.
April	6	Tuesday	Instruction begins.
April	9	Friday	Conferring of Degrees.
May	14	Friday	Birthday of Leland Stanford, Junior.
June	15–17	Tuesday–Thursday	End-Quarter Examinations.
June	21	Monday	Commencement.

SUMMER QUARTER

June	22	Tuesday	Registration for Summer Quarter.
July	28	Wednesday	First Half ends.
July	29	Thursday	Second Half begins
Sept.	1–3	Wednesday–Friday	End-Quarter Examinations.

AUTUMN QUARTER, 1920–21

Oct.	1	Friday	Registration for Autumn Quarter.

ADMINISTRATIVE OFFICERS

THE BOARD OF TRUSTEES

[The figures in parentheses indicate year of beginning of service.]

FRANK BARTOW ANDERSON (1912), California and Sansome, San Francisco
WILLIAM B. BOURN (1917), Filoli, San Mateo
SELAH CHAMBERLAIN, A. B. (1918), (Mills Bldg., S. F.) Woodside, Redwood City
LELAND WHITMAN CUTLER, A. B. (1920), 333 Pine st., San Francisco
FRANK PRENTISS DEERING, A. M. (1916), Nevada Bank Bldg., San Francisco
CHARLES PARMELEE EELLS, A. B. (1905), 2415 Pierce st., San Francisco
JOSEPH DONOHOE GRANT, A. B. (1891), 2200 Broadway, San Francisco
THOMAS TINGEY CRAVEN GREGORY, A. B. (1919), San Francisco
HERBERT CLARK HOOVER, LL. D. (1912), Stanford University
TIMOTHY HOPKINS (1885), (Nevada Bank Bldg., S. F.), Menlo Park
SAMUEL FRANKLIN LEIB, LL. B (1891), First Ntl. Bank Bldg., San Jose
*PERCY T. MORGAN (1916),
WILLIAM MAYO NEWHALL, B. S. (1912), 260 Calif. st., San Francisco
JAMES LEROY NICKEL (1909), Merchants Exchange Bldg., San Francisco
JOHN THOMAS NOURSE (1920), Wells Fargo Bldg., San Francisco
†LEON SLOSS (1891),
MARCUS CAUFFMAN SLOSS, A. M. (1920), Mills Bldg., San Francisco

OFFICERS OF THE BOARD

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Treasurer: LEON SLOSS.
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Assistant Secretary: SELAH CHAMBERLAIN.
Assistant Treasurer: THOMAS TINGEY CRAVEN GREGORY.

STANDING COMMITTEES OF THE BOARD

Finance: ANDERSON, BROWN, CHAMBERLAIN, GRANT, MORGAN, NEWHALL, NICKEL, SLOSS.
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Library: HOPKINS, EELLS, CHAMBERLAIN.
Rules: EELLS, GRANT, DEERING.
Grounds: NEWHALL, MORGAN, SLOSS.
Medical Sub-Committee: CHAMBERLAIN, HOPKINS, SLOSS.

* Deceased, April 16, 1920.
† Deceased, May 5, 1920.

THE UNIVERSITY

[Office in parentheses.]

President: Ray Lyman Wilbur. (Adm. 165.)
Comptroller: Almon Edward Roth. (Adm. 163.)
Registrar: Orrin Leslie Elliott. (Adm. 164)
Acting Librarian: Charles V. Park. (Library.)
Dean of Men and Academic Secretary: John Ezra McDowell. (Adm. 161, 174.)
Dean of Women: Harriet Bradford. (Adm. 162.)
Chaplain: David Charles Gardner. (Vestry.)
Appointment Secretary: Elizabeth Burritt Snell. (Adm. 170.)
Medical Adviser of Men: Alfred David Browne. (Encina Gymnasium.)
Acting Medical Adviser of Women: Ethel Dale Owen. (Roble Gymnasium.)

DEPARTMENT EXECUTIVES

[Office in parentheses.]

Anatomy: Arthur William Meyer. (m7.)
Applied Mathematics: Leander Miller Hoskins. (275.)
Bacteriology and Experimental Pathology: Wilfred Hamilton Manwaring. (m2.)
Botany: Douglas Houghton Campbell. (468.)
Chemistry: Robert Eckles Swain. (c44.)
Civil Engineering: Charles David Marx. (271.)
Economics: Murray Shipley Wildman. (223.)
Education: Ellwood Patterson Cubberley. (32.)
Electrical Engineering: Harris Joseph Ryan. (505.)
English: William Herbert Carruth. (209.)
Entomology and Bionomics: Rennie Wilbur Doane.† (431.)
Geology: James Perrin Smith. (329.)
Germanic Languages: William Alpha Cooper. (116.)
Greek: Augustus Taber Murray. (250.)
History: Ephraim Douglass Adams. (237.)
Latin: Jefferson Elmore. (257.)
Law: Charles Anderson Huston. (5.)
Mathematics: Robert Edgar Allardice. (70.)
Mechanical Engineering: William Frederick Durand. (260.)

† Acting.

Medicine: William Ophüls. (San Francisco.)
Anatomy: Arthur William Meyer. (m7.)
Bacteriology and Experimental Pathology: Wilfred Hamilton Manwaring. (m2.)
Chemistry: Robert Eckles Swain. (c44.)
Hygiene and Public Health: William Ophüls.† (San Francisco.)
Medicine: Albion Walter Hewlett. (San Francisco.)
Obstetrics and Gynecology: Alfred Baker Spalding. (San Francisco.)
Pathology: William Ophüls. (San Francisco.)
Pharmacology: Albert Cornelius Crawford. (San Francisco.)
Physiology: Ernest Gale Martin. (482.)
Surgery: Stanley Stillman. (San Francisco.)
Military Training: Leroy P. Collins.
Mining and Metallurgy: Theodore Jesse Hoover. (558.)
Philosophy: Henry Waldgrave Stuart. (93.)
Physics: Frederick John Rogers.† (381.)
Physiology: Ernest Gale Martin. (482.)
Political Science: Victor J. West. (220.)
Psychology: Frank Angell. (399.)
Romanic Languages: Oliver Martin Johnston. (246.)
Zoology: Charles Henry Gilbert. (443.)

Physical Education—
Men: Alfred David Browne.
Women: Helen Masters Bunting.
Library: Charles V. Park.†
Memorial Church: David Charles Gardner.
Museum: Pedro J. Lemos.

† Acting.

STANDING COMMITTEES OF THE ACADEMIC COUNCIL

[The first-named member in each committee is Chairman, unless otherwise indicated. The term of office of members of the Advisory Board begins August 1st; of the Executive Committee, immediately upon election; of all other standing committees, July 1st.]

ADVISORY BOARD

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3. Athletics (Women): MISS BUNTING, MISS BRADFORD, MISS BUCKINGHAM, MISS MCCRACKEN, DR. MOSHER, MISS STOLTENBERG.
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7. Public Entertainments: (Omitted for 1919-20).
8. Vocational Guidance: J. G. BROWN, MISS BRADFORD, FISH, HUSTON, MRS. SNELL, WEST.

ACADEMIC COMMITTEES

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2. Admission and Advanced Standing: ELLIOTT, SEARS, TATLOCK, TOWNLEY, TREAT.
3. Registration: ELLIOTT, ALLEN, MCDOWELL, MRS. RUSSELL, SNYDER.
4. Graduation: J. P. SMITH, ELLIOTT, E. G. MARTIN, VERNIER.
5. Schedule and Examinations: KIRKWOOD, H. C. BROWN, ELLIOTT, MORENO, STEBBINS.
6. Graduate Study: FRANKLIN, ALDEN, BRIGGS, HOSKINS, MEYER, MORENO, PEIRCE, J. P. SMITH, STUART, TATLOCK, WILDMAN.
7. Library: SWAIN, ADAMS, COOPER, G. H. MARX, WILDMAN.
8. University Publications: KELLOGG, ADAMS, BRIGGS, MCFARLAND, TOWNLEY.

OFFICERS OF INSTRUCTION AND ADMINISTRATION

[Name; office; residence telephone; title; residence; post-office. Post-office in all cases *Stanford University* except where University residence is followed by initial letters of town ("p" indicates *Palo Alto* post-office; "Mayfield-m," *Mayfield* post-office, etc.). Street address *Palo Alto* or *Campus* unless otherwise named. The figures in parentheses immediately following name indicate the quarters in active service during the year (e. g., 124, autumn, winter, and summer quarters); brackets indicate absence on leave for the year. The dagger (†) marks the names of men who are married.]

EMERITUS

†ANDERSON, MELVILLE BEST, Menlo Park 773
Professor of English Literature, Emeritus, Menlo Park

A. M., Butler University, 1877; LL. D., Aberdeen, 1906. At Stanford since 1891, Emeritus since 1910.

†BARKAN, ADOLPH,
Professor of Structure and Diseases of Eye, Ear, and Larynx, Emeritus, Zurich, Switzerland

M. D., University of Vienna, 1866; LL. D., University of Glasgow, 1901. At Stanford since 1909, Emeritus since 1911.

†BRANNER, JOHN CASPER, PA 1010
President, Emeritus, 13 Alvarado

B. S., Cornell, 1882; Ph. D., Indiana, 1885; LL. D., Arkansas, 1897, Maryville College, 1909, California, 1915; D. Sc., Chicago, 1916. Professor of Geology, 1891–1915, Vice-President, 1898–1913, President, 1913–1915, Emeritus since 1916.

†GRIFFIN, JAMES OWEN, PA 1054
Professor of German, Emeritus, 14 Alvarado

Graduate Pennsylvania State Normal School, 1873. At Stanford since 1891, Emeritus since 1917.

*†HIRSCHFELDER, JOSEPH OAKLAND,
Clinical Professor of Medicine, Emeritus,

M. D., University of Leipzig, 1876. At Stanford 1909–12, Emeritus 1912.

†JENKINS, OLIVER PEEBLES, PA 1042M
Professor of Physiology and Histology, Emeritus, 3 Lasuen

A. B., Moore's Hill College, 1869, A. M., 1872; M. S., Indiana, 1886, Ph. D., 1889; LL. D., Moore's Hill College, 1916. At Stanford since 1891, Emeritus since 1916.

*Deceased, July, 1920.

†JORDAN, DAVID STARR, PA 1001
Chancellor, Emeritus, Xazmin House

M. S., Cornell, 1872; M. D., Indiana Medical College, 1875; Ph. D., Butler College, 1878; LL. D., Cornell, 1886, Johns Hopkins, 1902, Illinois College, 1903, Indiana, 1909, California, 1915, Western Reserve, 1915. President of the University, 1891–1913, Chancellor, 1913–16, Emeritus since 1916.

MARTIN, LILLIEN JANE, Franklin 2327
Professor of Psychology, Emeritus, 729 Jones, San Francisco

A. B., Vassar, 1880; M. L. A. and hon. Ph. D., Bonn, 1913. At Stanford since 1899, Emeritus since 1916.

†SANFORD, FERNANDO, PA 646
Professor of Physics, Emeritus, 450 Kingsley

B. S., Carthage College, 1879, M. S., 1882. At Stanford since 1891, Emeritus since 1919.

†STILLMAN, JOHN MAXSON, PA 1048
Professor of Chemistry, Emeritus, 2 Alvarado

Ph. B., California, 1874, Ph. D., 1885, LL. D., 1916. At Stanford since 1891, Emeritus since 1917.

ACTIVE

†ABRAMS, LEROY, (123) PA 1125
Associate Professor of Botany, 23 Salvatierra

A. B., Stanford, 1899, A. M., 1902; Ph. D., Columbia, 1910. Acting Professor of Botany, University of Idaho, 1899–1900; Assistant in Botany, Stanford University, 1900–02, Instructor, 1902–04; Fellow in Botany, Columbia University, 1904–05; Assistant Curator, Division of Plants, United States National Museum, 1905–06; Lecturer in Botany, University of California, first semester, 1915–16; Field Assistant, U. S. Department of Agriculture, summer, 1918. At Stanford 1900–04, and since 1906.

†ACKER, ARTHUR LOUIS, (123)
Instructor in Physical Training, 219 Channing-p

At Stanford since 1919.

†ADAMS, EPHRAIM DOUGLASS, (34) PA 1058
Professor of History, 27 Salvatierra

A. B., Michigan, 1887, Ph. D., 1890; LL. D., Grinnell, 1917; Litt. D., Tufts, 1918. Principal of High School, McGregor (Ia.), 1887; Principal of High School, Saginaw (Mich.), 1889; Special Agent in Charge of Street Railways, Eleventh Census, Washington (D. C.), 1890; Assistant Professor and afterward Professor of European History, University of Kansas, 1891–1902. At Stanford since 1902.

†ADDIS, THOMAS, (1234) Sausalito, 104W
Associate Professor of Medicine, 57 Miller ave., Sausalito-s

M. B. Ch. B., Edinburgh, 1905, M. D. and M. R. C. P., 1908. Clinical Assistant, Medical Out-Patient Department, Royal Infirmary of Edinburgh, 1908, 1911; Medical Registrar, Leith Hospital, 1911; Carnegie Research Scholar and Fellow, 1908–11; Director of the Clinical Laboratory, Lane Hospital, since 1911. At Stanford since 1911.

†ALDEN, RAYMOND MACDONALD, (1234) PA 288
Professor of English, 427 Embarcadero Road

A. B., Pennsylvania, 1894; A. M., Harvard, 1896; Ph. D., Pennsylvania, 1898. Instructor in English, Columbia University, 1894-95; Assistant in English,

Harvard University, 1896–97; Senior Fellow in English, University of Pennsylvania, 1898–99, Instructor, 1899-1901; Assistant Professor of English Literature and Rhetoric, Stanford University, 1901–09; Associate Professor of English, 1909–11; Professor of English, University of Illinois, 1911–14; Acting Associate Professor, University of Chicago, Summer Quarter, 1910; Acting Professor, Harvard University, Summer Session, 1912, Columbia University, 1916, 1919. At Stanford 1901–11, and since 1914.

†ALDERSON, HARRY EVERETT, (1234) Fillmore 4548
Associate Clinical Professor of Medicine, 2649 Green, SF-sf

M. D., California, 1900. Assistant in Skin Diseases, Medical Department of University of California, 1906–12; Professor of Art Anatomy, California School of Design, 1906–12; Chief of Skin Clinic, San Francisco Fruit and Flower Mission. At Stanford since 1912.

ALLARDICE, ROBERT EDGAR, (123) PA 1036
Professor of Mathematics, County Road

A. M., Edinburgh, 1882. Baxter Scholar in Mathematics, University of Edinburgh, 1882-83, Drummond Scholar in Mathematics, 1883-84. Assistant Professor of Mathematics, University of Edinburgh, 1883–92. At Stanford since 1892.

†ALLEN, CLIFFORD GILMORE, (124) PA 1031J
Associate Professor of Romanic Languages, 25 Alvarado

A. B., Boston, 1900; A. M., Stanford, 1903; Docteur de l'Université de Paris, 1906. Student, University of Paris, 1903–04; Fellow of Boston University and Student at Universities of Paris and Madrid, 1904–05. At Stanford since 1901.

†ALLEN, WARREN D., (1234) PA 1315J
Organist, 201 Pope-p

Associate, American Guild of Organists. Pupil of Rudolph Ganz and Alex. von Fielitz, Berlin, 1909–10; studied organ with C. M. Widor, Paris, 1911; member of Busoni Class, Basel, Switzerland, September, 1910; Dean of Conservatory of Music, College of the Pacific, 1913–19. At Stanford since 1918.

ALLEN, YOLANDA SHAW, (123) PA 1042M
Instructor in Physical Training, 3 Lasuen

At Stanford since 1919.

†AMES, EDWARD SCRIBNER, (4)
Acting Associate Professor of Philosophy (summer quarter), 951 Bryant-p

A. B., Drake, 1889, A. M., 1891; B. D., Yale Divinity School, 1892; Ph. D., Chicago, 1895. Professor of Philosophy and Pedagogy, Butler College, 1897–1900; Instructor in Philosophy, University of Chicago, 1901–09, Assistant Professor, 1909–18, Associate Professor, since 1918. Pastor Hyde Park Church of Disciples of Christ, Chicago, since 1900.

ANGELL, FRANK, (123) PA 87
Professor of Psychology, 1200 Bryant

B. S., Vermont, 1878; Ph. D., Leipzig, 1891; L. H. D., Vermont, 1892. Teacher in Washington (D. C.) High School, 1880–87; Assistant Professor of Psychology, Cornell University, 1891–92. At Stanford since 1892.

†BACHER, JOHN ADOLPH, (1234) Pacific 3334
Assistant Clinical Professor of Surgery (Otology, Rhinology, Laryngology), 1635 Lake, SF-sf

A. B., Stanford, 1899; M. D., Harvard, 1911. At Stanford since 1917.

BAILEY, MARGERY, (123) PA 1025
Instructor in English, 1 Salvatierra
A. B., Stanford, 1914, A. M., 1916. At Stanford since 1914.

†BARKAN, HANS, (1) Pacific 3714
Assistant Clinical Professor of Surgery (Ophthalmology), 21 Commonwealth, SF-sf
A. B., Stanford, 1905; M. D., Harvard Medical School, 1910. Assistant in Pathology, Harvard Medical School, 1910–11, Instructor, 1911–12; Pathologist to the Long Island Hospital and Boston City Almshouse, 1911–12; Voluntary Assistant, II, Eye Clinic, Vienna, 1912–14. At Stanford since 1914.

BARNETT, GEORGE DE FOREST, (123) PA 899
Assistant Clinical Professor of Medicine, Kingscote
A. B., Stanford, 1906, A. M., 1909, M. D., 1913. Instructor in Chemistry, Stanford University, 1909–10; Student, Johns Hopkins Medical School, 1910–12; Senior House Officer, Lane Hospital, 1914–15; Lieutenant, M. C., U. S. N. R. F., 1917-19. At Stanford since 1915.

†BASSET, GARDNER CHENEY, (124)
Assistant Professor of Psychology, 618 Fulton-p
A. B., Clark, 1911; Ph. D., Johns Hopkins, 1913. Investigator in Comparative Psychology and Neurology, Carnegie Institution, Washington (D. C.), 1913–14; Assistant Professor and Director of the Psychological Clinic, University of Pittsburgh, 1913–14, Professor, 1914–19 (on leave of absence in Army Service, 1918–19). At Stanford since 1919.

†BASSETT, LEE EMERSON, (234) PA 1080
Professor of English, 9 Cabrillo
A. B., Stanford, 1901. Graduate, Cumnock School of Oratory, Los Angeles, 1898; Instructor in Public Speaking, University of Southern California, 1898–99; Student, School of Expression, Boston, 1901; Acting Associate Professor of Public Speaking, University of Washington, 1912–13; Professor of Public Speaking, University of Colorado, summer session, 1919. At Stanford since 1900.

†BAUMBERGER, JAMES PERCY, (1234)
Instructor in Physiology, 1155 Ramona-p
B. S., California, 1914; M. S., Harvard, 1916, D. Sc., 1918. Student, Yale Army Laboratory School, 1918; Assistant in Zoology, Harvard University, 1914–18, Assistant in Botany, 1918, Austin Teaching Fellow in Zoology, 1917–18; Assistant in Physiology, Radcliffe College, 1917, Assistant in Entomology, 1918; Instructor in Natural Sciences, Lowthorpe Horticulture School, 1915–18, Traumatic Shock Laboratory, A. E. F., 1918–19. At Stanford since 1919.

†BEACH, WALTER GREENWOOD, (234)
Professor of Economics, 105 Emerson
A. B., Marietta, 1888; A. B., Harvard, 1891, A. M., 1892; Professor of Philosophy and History, Marietta College for Women, 1893–97; Student, Stanford University, 1897–98; Assistant Professor and afterward Professor and Head of Department of Economic Science and History, State College of Washington, 1898–1910; Professor of Social Science, University of Washington, 1910–17; Dean of College of Sciences and Arts, and Professor of Social Science, State College of Washington, 1917–20. At Stanford since 1920.

†BEAL, CARL HUGH, (23) San Mateo 629W
Assistant Professor of Mining and Metallurgy, 517 Sharon Bldg., SF-sf
A. B., Stanford, 1913. At Stanford since 1920.

BERGER, ALICE RUTH, (123)
Instructor in Chemistry, 73 No. 6th, San Jose

A. B., Stanford, 1908, A. M., 1913. At Stanford since 1911.

†BERING, ROBERT EUGENE, (123) Market 8048
Lecturer on Drug Addictions, 1500 Page, SF-sf

M. D., Tulane, 1895.

†BINGHAM, JOSEPH WALTER, (1234) PA 1100M
Professor of Law, 653 Melville

A. B., Chicago, 1902, J. D., 1904. In practice of law, Chicago, 1904–05; Acting Assistant Professor of Law, Cornell University, 1905–07; Professor of Law, University of Chicago, summer quarter, 1916. At Stanford since 1907.

†BLAISDELL, FRANK ELLSWORTH, (123) Pacific 3482
Associate Professor of Surgery, 1520 Lake, SF-sf

M. D., Cooper Medical College, 1889. Demonstrator of Anatomy, Cooper Medical College, 1903, Instructor in Biology and Embryology, 1900–09, in Histology, 1907–09, Assistant Professor of Anatomy, 1904–05, Associate Professor, 1907–12. At Stanford since 1910.

†BLEE, CLARENCE EARL, (123) PA 734R
Assistant Professor of Civil Engineering, 328 Churchill-p

A. B., Stanford, 1911. Assistant Engineer, Bear Creek Hydraulic Fill Dam, Vancouver Island (B. C.), 1911–12; Division Engineer, Sooke Lake Water Supply, Victoria (B. C.), 1912–14; Assistant Engineer, in charge of Auxiliary Water Supply, Panama-Pacific Exposition, 1914–16; Assistant Engineer with California-Oregon Power Company, 1916–18; Investigations and Reports, Benicia Shipbuilding Corporation, 1918–19. At Stanford since 1919.

BLICHFELDT, HANS FREDERIK, (1234) PA 435
Professor of Mathematics, College Terrace

A. B., Stanford, 1896; Ph. D., Leipzig, 1898. At Stanford since 1898.

†BOARDMAN, WALTER WHITNEY, (1234) Fillmore 2506
Associate Clinical Professor of Medicine, 37 Walnut, SF-sf

M. D., Cooper Medical College, 1909. Assistant in Phipps Dispensary, Johns Hopkins Hospital, 1910, Assistant in Actinography and externe in Gynecology, 1911. At Stanford since 1912.

†BOEZINGER, BRUNO, (123) PA 196
Associate Professor of German, 176 Bryant-p

A. B., Fort Worth University, 1894, A. M. 1895; Ph. D., Stanford, 1910. Instructor in German, North Texas Normal School, 1895–98; Principal, German Department, San Antonio (Texas) H. S., 1899–1906; Instructor in German, Summer School, University of Texas, 1896. At Stanford since 1906.

BOEZINGER, LYDIA MARIE, (12)
Secretary to Dean of the Medical School, 1555 Marin, Berkeley-b

At Stanford since 1912.

BRADFORD, HARRIET, (123) PA 1203
Dean of Women, 2 Lasuen

A. B., Bryn Mawr, 1915. At Stanford since 1916.

†Brandsten, Ernst M., (1234) PA 1247J
Assistant Director of Physical Training, 2499 Waverley

Teacher of Swimming, Municipal Baths, Stockholm, Sweden, 1905; Swimming Coach, Neptune Swimming Club, Stockholm, 1906, University of California, 1911, 1913–15. At Stanford since 1915.

Brandsten, (Mrs.) Greta Johanson, (1234) PA 1247J
Instructor in Physical Training, 2499 Waverley

At Stanford since 1916.

†Briggs, William Dinsmore, (1234) PA 260M
Associate Professor of English, 249 Lowell-p

A. B., Stanford, 1896; A. M. Harvard, 1899, Ph. D., 1900. Student, Johns Hopkins University, 1896–97; Instructor in English and German, University of Vermont, 1900–01; Instructor in English, Western Reserve University, 1901–06. At Stanford since 1906.

†Brown, Harold Chapman, (1234) PA 1006
Associate Professor of Philosophy, Cooksey Lane

A. B., Williams, 1901; A. M., Harvard, 1903, Ph. D., 1905. Student, University of Berlin, 1903–04; Assistant in Philosophy, Harvard University, 1904–06; Instructor in Philosophy, Columbia University, 1906–14. At Stanford since 1914.

†Brown, Henry Alexander, (123) Berkeley 1681
Clinical Instructor in Surgery, 41 El Camino Real, Berkeley-b

M. D., Medico-Chirurgical College, Philadelphia, 1900. Sometime A. A. Surgeon, Illinois Charitable Eye and Ear Infirmary, Chicago; Sometime Clinical Assistant, Royal London Ophthalmic Hospital, London, England. At Stanford since 1918.

Brown, Joseph Grant, (123) PA 461M
Assistant Professor of Physics, 1013 Ramona-p

A. B., Stanford, 1901, A. M., 1903. Graduate, Illinois State Normal University, 1894, Instructor in Physics and Chemistry, 1894–98. At Stanford since 1900.

†Browne, Alfred David, (123) PA 455J
Associate Professor of Physical Education and
Medical Adviser of Men 1157 Ramona-p

Buckingham, Elisabeth Lee, (123) PA 1207M
Instructor in English, 609 Kingsley-p

A. B., Stanford, 1910, A. M., 1914. Student Columbia College of Expression, Summer, 1913; Teacher of Public Speaking, State Normal School, San Jose, 1914; Student Columbia University, 1917–18, and summer sessions, 1916, 1919. At Stanford since 1911.

Bunnell, Sterling, (123) West 1400
Lecturer in Surgery, Bohemian Club

B. S:, M. D., California, 1908. Interne, St. Luke's Hospital, San Francisco, 1909; Assistant in Surgery, University of California, 1912–13; Assistant in Gynecology, St. Luke's Hospital, 1915–17; Service in Gynecology, Polyclinic, 1915, in Surgery, 1916, 1917, 1920; M. C. U. S. A., 1917–18. At Stanford since 1919.

Bunting, Helen Masters, (1234) PA 860
Assistant Professor of Physical Education for Women, Kingscote

Graduate, Department of Hygiene, Wellesley College, 1912. Instructor in Physical Education, Centenary Collegiate Institute, Hackettstown (N. J.), 1912–14; Director, Physical Education for Women, University of Colorado, 1914–19. At Stanford since 1919.

†Burke, Charles Victor, (134) PA 582M
Instructor in Bacteriology, 603 Lytton-p
A. B., Stanford, 1907, A. M., 1908, Ph. D., 1912. At Stanford since 1917.

Burke, Georgina Spooner (Mrs.), (4)
Lecturer in Bacteriology, 603 Lytton-p
A. B., Vassar, 1907; A. M., Columbia, 1908.

Burke, William Edmond, (123)
Instructor in Chemistry, 603 Lytton-p
A. B., Stanford, 1907. Assistant Chemist, Experiment Station of Hawaiian Sugar Planters' Association, Honolulu, 1907–08. At Stanford since 1914.

†Burlingame, Leonas Lancelot, (123) PA 1144
Associate Professor of Botany, 24 Alvarado
Ph. B., Ohio Northern University, 1901; A. B., Chicago, 1906, Ph. D., 1908. Instructor in Biology, Ohio Northern University, 1901–04; Fellow in Botany, University of Chicago, 1906, Assistant, 1906–08. At Stanford since 1908.

Campbell, Douglas Houghton, (123) PA 1036
Professor of Botany, County Road
Ph. M., Michigan, 1882, Ph. D., 1886. Teacher of Biology, Detroit High School, 1882–86; Student at Bonn, Tübingen, and Berlin, 1886–88; Professor of Botany, Indiana University, 1888–91. At Stanford since 1891.

†Canning, John Bennet, (124) PA 951J
Assistant Professor of Economics, 835 Lytton-p
Ph. B., Chicago, 1913. Graduate Scholar in Political Economy, University of Chicago, 1913–14, Assistant, 1914–15, Instructor, 1915–17. At Stanford since 1919.

†Carpenter, Frank Benton, (123) Pacific 1677
Lecturer in Gynecology, 3966 Washington
M. D., Columbia College, 1883. Externe, Chambers Street Hospital, N. Y., 1883; Visiting Physician, Hospital for the Insane, Honolulu, 1884–85; Gynecologist, St. Luke's Hospital, San Francisco, 1900–1918; Gynecologist, San Francisco Polyclinic, 1900–18; Gynecologist, San Francisco Hospital, 1902–18.

†Carruth, William Herbert, (234) PA 299
Professor of Comparative Literature, 11 Mirada
A. B., Kansas, 1880, A. M., 1883; A. M., Harvard, 1889, Ph. D., 1893. Student, Universities of Berlin and Munich, 1885–86; Morgan Fellow at Harvard University, 1888–89; Instructor in English, University of Kansas, 1879–80, Assistant Professor of Modern Languages, 1880–82, Professor, 1882–89, Professor of German, 1889–1913, Vice-President, 1901–13; Professor of German Literature, University of Wisconsin, Summer Session, 1907; President, Central Division American Modern Language Association, 1894–97. At Stanford since 1913.

†Cathcart, Arthur Martin, (1234) PA 197
Professor of Law, 1215 Emerson
A. B., Stanford, 1896. Student, Harvard University, 1896–97; Attorney at Law, Colorado Springs (Colo.), 1903–04; Lecturer in Law, University of California, Summer Session, 1908; Professor of Law, University of Chicago, Summer Quarter, 1911. At Stanford since 1904.

CATTON, JOSEPH, (23) Pacific 7490
Clinical Instructor in Medicine (Neurology), 3832 Jackson, SF-sf

B. S., California, 1911; M. D., California, 1913. Voluntary Assistant in Medicine, University of California, 1914–16; Assistant in Medicine, 1916; Chief of Medical Clinic, San Francisco Polyclinic, 1917–October, 1919; Assistant Visiting Physician, San Francisco Hospital, 1914–1917, Visiting Physician, 1917. Major, M. C., U. S. A. At Stanford since 1919.

†CHENEY, WILLIAM FITCH, (123) Pacific 2573
Clinical Professor of Medicine, 33 Spruce, SF-sf

B. L., California, 1885; M. D., Cooper Medical College, 1889. Professor of Principles and Practice of Medicine, Cooper Medical College, 1898–1912. At Stanford since 1909.

†CLARK, ARTHUR BRIDGMAN, (24) PA 1023
Professor of Education (Graphic Art), 4 Cabrillo

B. Ar., Syracuse, 1888, M. Ar., 1891. Director of Trade Schools and Instructor in Drawing, New York State Reformatory, Elmira (N. Y.), 1888–89; Instructor in Architecture, Syracuse University, 1889–92; Student in Painting, New York School of Art and Académie Carmen, Paris, 1898–99; Instructor in Pottery, California School of Arts and Crafts, Berkeley, Summer Session, 1913, 1914; Director, San Francisco Art Association, 1917; Lecturer, California School of Fine Arts, 1919–20. At Stanford since 1892.

CLARK, GEORGE THOMAS, (1)
Librarian, Library

B. S., California, 1886. Assistant Librarian, University of California, 1886–87; Deputy State Librarian, California State Library, 1887–90, Classifier, 1890–94; Librarian, San Francisco Public Library, 1894–1907. At Stanford since 1907.

[†CLARK, JAMES CAMERON, PA 267
Associate Professor of Electrical Engineering, 453 Webster-p]

B. S., Iowa State College, 1907; M. E. E., Harvard, 1912; E. E., Iowa State College, 1917. Engineering Apprentice Course, Westinghouse Electric & Manufacturing Company, 1907–09; Instructor in Electrical Engineering, Case School of Applied Science, 1909–11; Transformer Engineering Specialist, General Electric Company, 1919–20. At Stanford since 1912.

†CLARK, WILLIAM REDWOOD PRICE, (123) West 1827
Assistant Clinical Professor of Medicine (Tuberculosis), 2710 Filbert, SF-sf

M. D., Cooper Medical College, 1899. Assistant Visiting Physician, City and County Hospital, San Francisco, 1901–04; Instructor in Medicine, Cooper Medical College, 1905–11; Visiting Physician, Clinic of the San Francisco Association for the study and Prevention of Tuberculosis, 1909–12; Visiting Physician, City and County Tuberculosis Hospital, San Francisco, 1911–12. At Stanford since 1911.

†COESTER, ALFRED, (234)
Assistant Professor of Romanic Languages, 435 Homer

A. B., Harvard, 1896, A. M., 1906, Ph. D., 1906. Student, University of Seville, Spain, 1901–02. At Stanford, Summer Quarter, 1919, and since 1920.

†COLLINS, LEROY PIERCE, (123) PA 883
Professor of Military Science and Tactics, 17 Salvatierra

Major, Field Artillery, U. S. A. At Stanford since 1919.

†CONGDON, EDGAR DAVIDSON, (123) PA 396R
Assistant Professor of Anatomy, 330 Coleridge-p

A. B., Syracuse, 1901, A. M., 1902; Ph. D., Harvard, 1909. Austin Teaching Fellow in Zoology, Harvard University, 1906–09; Hooper Traveling Fellow in Zoology of Harvard University, at University of Zürich, 1909–10; Sheldon Traveling Fellow in Zoology of Harvard University, at Biologische Versuchs Anstalt and K. K. Institut für Radiumforschungen, Vienna, 1910–11; Instructor in Embryology, Cornell University Medical College, 1911–12. At Stanford since 1912.

†COOPER, CHARLES MINER, (123) Fillmore 1821
Associate Clinical Professor of Medicine, 2550 Buchanan, SF-sf

M. B. Ch. B., Edinburgh, 1897. Resident House Physician and House Surgeon, Royal Infirmary, Edinburgh, and Children's Hospital, Edinburgh, 1898–99; Assistant Demonstrator in Anatomy, University of Edinburgh, 1899; Instructor in Clinical Medicine and in Clinical Surgery, University of California, 1902–05; Associate Professor of Internal Medicine and Director of X-Ray Laboratory, Cooper Medical College, 1909–11. At Stanford since 1918.

COOPER, WILLIAM ALPHA, (13) PA 593
Professor of German, 35 Salvatierra

A. B., Marietta, 1892, A. M., 1897, Litt. D., 1917. Student, Universities of Bonn, Leipzig, and Paris, 1892–94; Instructor in German and French, Marietta College, 1895–99, Professor, 1899–1901. At Stanford since 1901.

†COOVER, JOHN EDGAR, (123) PA 933
Fellow in Psychic Research, and
Assistant Professor of Psychology, 11 Salvatierra

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1912. Principal, Como (Colo.) Schools, 1898–99; Principal, Sonora (Cal.) High School, 1905–07, Dixon High School, 1907–10; Assistant in Psychology, Stanford University, 1910–12; Captain, Sanitary Corps, U. S. A., Psychological Division, Medical Research Laboratory (Military Aeronautics), 1918–19. At Stanford since 1910.

COSGRAVE, MILLICENT MARY, (1234) West 1951
Assistant Clinical Professor of Medicine (Pediatrics),
2619 Octavia, SF-sf

M. D., Cooper Medical College, 1902. Assistant, Children's Clinic, Cooper Medical College, 1904–08; Assistant, Medical Clinic, San Francisco Polyclinic, 1904–13; Chief, Gynecological Clinic, San Francisco Fruit and Flower Mission, 1906–13.

†COTTRELL, EDWIN ANGELL, (123) PA 759M
Professor of Political Science, 1029 Ramona-p

B. A., Swarthmore, 1907; M. A., Harvard, 1913. Instructor in Political Science, Pennsylvania State College, 1907–11, Assistant Registrar, 1909–11; Assistant in Government, Harvard University, 1911–15, Swarthmore Fellow, 1912–13; Instructor in Government, Wellesley College, 1912–17; Lecturer in Constitutional Government, Brown University, 1915–16; Secretary of the Boston Budget Commission, 1915; Assistant Secretary, Boston Chamber of Commerce, 1916–17; Executive Secretary, Massachusetts Health Insurance Commission, 1917; Professor of Political Science and Director of the Bureau of Governmental Research, Ohio State University, 1917–19; Special Investigator, United States Bureau of Efficiency, 1918. At Stanford since 1919.

†COWAN, JOHN FRANCIS, (123) Pacific 4138
Associate Professor of Surgery, 587 15th ave., SF-sf

A. B., Stanford, 1902; M. D., Cornell University Medical College, 1910. Assistant and Acting Instructor in Physiology, Stanford University, 1903–06; Instructor in Physiology, Cornell University Medical College, 1906–09; Interne, New York Hospital, 1910–12, Resident Surgeon, 1912–13. At Stanford since 1913.

†Crawford, Albert Cornelius, (123) West 6193
Professor of Pharmacology, 2200 Larkin, SF-sf

M. D., College of Physicians and Surgeons, Baltimore, 1893. Student at Johns Hopkins University, 1887–90, 1891–94, 1903; Assistant in Pharmacology, Johns Hopkins Medical School, 1894–1900; Pharmacologist, Bureau of Plant Industry, United States Department of Agriculture, 1904–08; Physiologist, Bureau of Animal Industry, United States Department of Agriculture, 1908–10. At Stanford since 1910.

†Cross, Charles Norman, (123) PA 1042J
Assistant Professor of Mechanical Engineering, 26 Alvarado

M. E., Cornell, 1906. Assistant Engineer, Long Island State Hospital, Brooklyn (N. Y.), 1905; Dynamo and Switchboard Attendant with the New York Edison Co., New York City, 1905–06; Electrician with the Lackawanna Steel Co., Buffalo (N. Y.), 1906; with Turbine Research Department of General Electric Company, Lynn (Mass.), 1914–15. At Stanford since 1906.

Cross, Tom Peete, (4)
Acting Professor of English (summer quarter),

A. B., Hampden-Sidney, 1899, B. S., 1900; A. M., Harvard, 1906, Ph. D., 1909. Instructor in English and Mathematics, Hampden-Sidney College, 1899–1900; Instructor in English, Harvard University, 1910–11; Professor of English, Sweet Briar College, 1911–12, University of North Carolina, 1912–13; Associate Professor of English and Celtic, University of Chicago, since 1913.

†Cubberley, Ellwood Patterson, (134) PA 1019
Professor of Education, and Dean of the School of Education, 12 Cabrillo

A. B., Indiana, 1891; A. M., Columbia, 1902, Ph. D., 1905. Instructor in Science, Ridgeville College (Ind.), 1891; Professor of Physical Science, Vincennes University (Ind.), 1891–93; President, 1893–96; Superintendent of City Schools, San Diego (Cal.), 1896–98; Honorary Fellow, Columbia University, 1901–02, 1904–05; Professor of Education, University of California, Summer Sessions, 1901, 1906, University of Chicago, Summer Quarter, 1910, Harvard University, second half-year, 1910–11; Visiting Professor, Columbia University, Summer Sessions, 1907, 1914, 1916, second half-year, 1915–16. At Stanford since 1898.

†Cushing, Oscar Kennedy, SF, Pacific 987
Lecturer in Law, 37 7th ave., SF-sf

†Cutter, Lawrence Edminster, (123) PA 459M
Assistant Professor of Mechanical Engineering, 627 Webster-p

A. B., Stanford, 1906. Machinist Apprentice and Journeyman, Union Iron Works, San Francisco, 1895–99, 1899–1902, 1903, 1904, Draftsman, 1905, 1906. At Stanford since 1906.

†Davidson, Percy Erwin, (234) Menlo Park 1243W
Associate Professor of Education, Menlo Heights

A. B., Stanford, 1898; A. M., Harvard, 1905; Ph. D., Columbia, 1914. Teacher, Grammar and High Schools, San Diego (Cal.), 1898–1900; Supervisor of History and English Teaching, San Francisco State Normal School, 1900–03; Assistant in Education, San Diego State Normal, 1903–04; Graduate Student, Teachers' College, Columbia University, 1905–07; Instructor in Logic and History of Education, New York Training School for Teachers, 1906–07. At Stanford since 1907.

†Desiré, Michel Julius, (123) West 2892
Lecturer on Physical Therapy, Lane Hospital, SF-sf

Candidat des Sciences, University of St. Petersburg, 1902–05, Clinical Assistant in Therapeutics, University of Berlin, 1906–07; Doctorat des Sciences

Naturelles, de l'Université de Liège, 1907–11; Special Worker in reclaiming maimed, Colorado Fuel & Iron Co., Minnequa Hospital, 1915–17; Director, Physical Therapy Department, Stanford University Hospital, since 1917.

†DICKSON, ERNEST CHARLES, (1234) West 5321
Associate Professor of Medicine, 2304 Divisadero, SF-sf

B. A., Toronto, 1904, M. B., 1906, M. D., 1917. Assistant Demonstrator in Physiology, University of Toronto, 1904–05; George Brown Research Scholar, 1906–07; Assistant Resident Physician, Johns Hopkins Hospital, 1907–08; Instructor in Pathology and Bacteriology, Cooper Medical College, 1908–10; Fellow of the Rockefeller Institute for Medical Research, 1910–13. At Stanford since 1910.

†DIETRICH, WALDEMAR FENN, (123) PA 1211
Associate Professor of Metallurgy, 677 Melville-p

A. B., Stanford, 1913, Engineer, 1914. Acting Instructor in Mining, Stanford University, 1913–14; Engineer with Copper Queen Consolidated Mining Company, Bisbee (Ariz.), 1914–15; Engineer and later Assayer with Consolidated Arizona Smelting Company, Humboldt (Ariz.), 1916. At Stanford 1913–14, and since 1916.

†DILLON, JAMES ROOT, (1234) Fillmore, 3071
Clinical Instructor in Surgery (Genito-Urinary), 2664 Greenwich, SF-sf

A. B., Stanford, 1908; M. D., Cooper Medical College, 1912. At Stanford since 1913.

†DOANE, RENNIE WILBUR, (123) PA 792R
Associate Professor of Entomology, 527 Homer

A. B., Stanford, 1896. Assistant in Zoology and Botany, Washington State College, 1896–99, Assistant Professor of Zoology and Entomology, 1899–1901; Superintendent, Fisheries Experiment Station, Keyport (Wn.), 1901–03. At Stanford since 1905.

DONOVAN, MONICA, (123) West 6193
Instructor in Medicine (Roentgenology), 2186 California, SF-sf

A. B., Stanford, 1914, M. D., 1917. At Stanford since 1917.

†DREW, ELMER REGINALD, (124) PA 1181W
Assistant Professor of Physics, 1321 Waverley-p

B. S., California, 1888; Ph. D., Cornell, 1903. Student, University of Chicago, 1897–98, University of Berlin, 1903–05; Assistant in Physics, University of California, 1889–92, Instructor, 1892–1902. At Stanford since 1905.

†DURAND, WILLIAM FREDERICK, (123) PA 160
Professor of Mechanical Engineering, 11 Cabrillo

Graduate, U. S. Naval Academy, 1880; Ph. D., Lafayette, 1888. Engineer Corps, U. S. Navy, 1880–87; Special Duty as Assistant Professor of Mechanical Engineering, Lafayette College, 1883–85, Worcester Polytechnic Institute, 1887; Professor of Mechanics and Superintendent of Mechanical Department, Michigan State Agricultural and Mechanical College, 1887–91; Professor of Marine Engineering and Principal Graduate School of Naval Architecture and Marine Engineering, Cornell University, 1891–1904. At Stanford since 1904.

†EAGER, HOWARD, (123) PA 420
Assistant Professor of Military Science and Tactics, 7 Salvatierra

Captain, Field Artillery, U. S. A. At Stanford since 1919.

[†ECKART, WILLIAM RANKINE, PA 227
Professor of Mechanical Engineering, 1445 Bryant-p]

M. E., Cornell, 1895. Mechanical Engineer, Siemens Halske Electric Co., Chicago, 1895–96; Construction Engineer, Allison Ranch Mine, Grass Valley (Cal.), 1896–98; Testing Work for Fraser & Chalmers, in Hawaii and Mexico, 1898–99; with W. R. Eckart, Consulting Engineer, Hydraulic Power Plants and Mining Work, 1899–1903, summers of 1904–14; Consulting Engineer, Geary St. P. & O. R. R., San Francisco, 1902–06, Columbia Steel Company since 1915, C. F. Braun & Co. since 1918. At Stanford since 1903.

ELLIOTT, HAROLD FARLEY, (23) PA 1117W
Acting Instructor in Machine Design, 559 Kingsley-p

A. B., Stanford, 1916.

†ELLIOTT, ORRIN LESLIE, (1234) PA 1045
Registrar, 5 Cabrillo

Ph. B., Cornell, 1885, Ph. D., 1890. Fellow in History and Political Science, Cornell University, 1885–86, Instructor in English, 1886–91, Assistant Registrar and President's Secretary, 1890–91. At Stanford since 1891.

†ELMORE, JEFFERSON, (34) PA 1114J
Associate Professor of Latin, 1134 Emerson-p

A. B., Stanford, 1895, A. M., 1895, Ph. D., 1901. Principal of Merced County High School, 1895–97; Student, Universities of Bonn and Berlin, 1901–02. At Stanford since 1898.

ELOESSER, LEO, (1234) West 1400
Associate Clinical Professor of Surgery, 1132 Filbert, SF-sf

B. S., University of California, 1900; M. D., Heidelberg, 1907. Volunteer Assistant, Surgical Clinic, Heidelberg, 1906; Assistant, Cancer Institute, Heidelberg, 1906–07; Volunteer Assistant, Royal Surgical Clinic, Kiel, 1908–09; Volunteer Assistant, August Hospital, Berlin, 1909; Assistant in Surgery, University of California, 1910–12; Surgeon to Reserve Hospital Ettlingen and Reserve Hospital III, IV, V, Karlsruhe, 1915–16; Major M. C., U. S. A., 1918; Chief of Orthopedic Service, Letterman General Hospital, 1918–19. At Stanford since 1913.

ELY, LEONARD WHEELER, (1234) PA 832
Associate Professor of Surgery (Orthopedics), 657 Cowper-p

A. B., Columbia, 1889; M. D., College of Physicians and Surgeons, Columbia University, 1895. At Stanford since 1913.

†EMGE, LUDWIG AUGUSTUS, (1234) Park 6964
Assistant Professor of Obstetrics and Gynecology,
36 Farnsworth Lane SF-sf

B. S., Chicago, 1912; M. D., Rush Medical College, 1914. Assistant in Anatomy, University of Chicago, 1912–13; Special Worker in Pathology, Rush Medical College, 1913–14; Interne, Memorial Institute for Infectious Diseases and Presbyterian Hospital, 1914–15; Resident and Assistant in Gynecology and Obstetrics, University of California Hospital, 1915–17. At Stanford since 1917.

†ESPINOSA, AURELIO MACEDONIO, (123) PA 998
Associate Professor of Romanic Languages, 543 Middlefield

A. B., Colorado, 1902, A. M., 1904; Ph. D., Chicago, 1909. Assistant in Romance Languages, University of Colorado, 1901–02, Instructor, Summer Terms, 1904, 1905; Professor of Romance Languages, University of New Mexico, 1902–10; Fellow in Romance Languages and Instructor in Spanish, University of Chicago, 1908–09; Lecturer in Spanish Literature, Summer Sessions, University of Chicago, 1914, University of California, 1912, 1915; Associate Editor, *Revue de Dialectologie Romane* and of *Journal of American Folk Lore*, since 1914; Editor, *Hispania*, since 1917; Member of Advisory Editorial Board of *Inter-America*, since 1917. At Stanford since 1910.

†Evans, Melbourne C., (123) PA 860
Instructor in Physical Training, 1 Salvatierra

†Faber, Harold Kniest, (1234) Fillmore 3848
Associate Professor of Medicine (Pediatrics), 3320 Clay, SF-sf

A. B., Harvard, 1906; M. D., Michigan, 1911. Medical Interne, New York Hospital, 1911–13; Resident Pathologist, Babies' Hospital, New York, 1913–14; Fellow, Rockefeller Institute, New York, 1914–15. At Stanford since 1915.

[†Fairclough, Henry Rushton, PA 1028W
Professor of Latin, 6 Cabrillo]

A. B., Toronto, 1883, A. M., 1886; Ph. D., Johns Hopkins, 1896. Fellow in Classics, University College, Toronto, 1883–84; Classical and English Master, Brockville High School, 1884–86; Graduate Scholar, Johns Hopkins University, 1886–87, Fellow, 1887; Lecturer in Greek and Ancient History, University College, Toronto, 1887–93; Professor of Latin, University of Wisconsin, Summer Session, 1906, Columbia University, Summer Session, 1908, University of Chicago, Summer Quarter, 1910; Professor of Latin, American School of Classical Studies, Rome, 1910–11. At Stanford since 1893.

†Farrington, Guy Stevens, (123) Franklin 7768
Lecturer on Speech Disorders, 1350 Sutter

Assistant, Defective Speech Clinic in Pediatrics, University of California, 1915–16; Assistant, Defective Speech Clinic, San Francisco Public Schools, 1916; Assistant, Defective Speech Clinic, Oakland Public Schools, 1917; Chief of Clinic, Defective Speech, College of Physicians and Surgeons, 1918. At Stanford since 1918.

†Ferris, Gordon Floyd, (1234) PA 1380M
Instructor in Entomology, 667 Melville

A. B., Stanford, 1916, A. M., 1918. At Stanford since 1916.

†Fish, John Charles Lounsbury, (123) PA 1266
Professor of Railroad Engineering, 308 Lincoln-p

C. E., Cornell, 1892. Instructor in Civil Engineering, Cornell University, 1892–93; Division Engineer, Lake Shore & Michigan Southern Railway, 1906–08. At Stanford since 1893.

Fisher, Walter Kenrick, (1234) Monterey 407W
Assistant Professor of Zoology, 844 Laurel, Pacific Grove-pg

A. B., Stanford, 1901, A. M., 1903, Ph. D., 1906. Assistant, U. S. Biological Survey, 1897–1901, 1903; Assistant, U. S. Fish Commission, 1902, 1904; Curator, Department of Invertebrate Zoology, California Academy of Sciences. At Stanford since 1902.

†Foster, Benjamin Oliver, (123) PA 767W
Associate Professor of Latin, 1445 Tasso-p

A. B., Stanford, 1895; A. M., Harvard, 1897, Ph. D., 1899. Parker Fellow of Harvard University, studying in the American School of Classical Studies in Rome, 1899–1900; Acting Professor of Latin and Greek, State Normal College of Michigan, 1900–01; Instructor, University of California, Summer Session, 1908. At Stanford since 1901.

†Franklin, Edward Curtis, (123) PA 216
Professor of Organic Chemistry, and Dean of Graduate Study, Mirada

B. S., Kansas, 1888, M. S., 1890; Ph. D., Johns Hopkins, 1894. Chemist to the Palo Alto Plantation and Sugar Factory, Donaldsonville (La.), 1888;

Chemist to the Bella Vista Mining and Milling Co., Los Quemados, Costa Rica, 1897; Instructor in Chemistry, University of Kansas, 1888–90; Student, University of Berlin, 1890–91; Assistant in Chemistry, University of Kansas, 1891–93, Associate Professor, 1894–99, Professor of Physical Chemistry, 1899–1903; Member of the U. S. Assay Commission, 1907; Chief of the Division of Chemistry, U. S. Public Health Service, Washington (D. C.), 1911–13; Member Advisory Board, Bureau of Mines, Washington (D. C.), 1917–18; Physical Chemist, Bureau of Standards, 1918; Consulting Chemist, Ordnance Bureau, 1918. At Stanford since 1903.

†FREIN, PIERRE JOSEPH, (4)
Acting Professor of Romanic Languages (summer quarter), 450 Melville

A. B., Williams, 1892; Ph. D., Johns Hopkins, 1899. Instructor in French and Greek, Oahu College, 1893–95; Fellow in Johns Hopkins University, 1898–99; Assistant Professor of Romanic Languages, Stanford University, 1899–1903.

†GARDNER, DAVID CHARLES, (123) PA 1068
Chaplain, and Lecturer on Biblical History and Literature, 1a Alvarado

Graduate, Church Divinity School of the Pacific, 1897, D. D., 1920. Curate St. James Mission, San Francisco, 1898; Rector of All Saints Church, Palo Alto, 1898–1902. At Stanford since 1902.

†GARNER, JAMES WILFORD, (4)
Acting Professor of Political Science (summer quarter), 404 Everett-p

B. S., Mississippi Agricultural and Mechanical College, 1892; Ph. M., Chicago, 1900; Ph. D., Columbia, 1902. Fellow in Political Science, Columbia University, 1900–02, Lecturer in History, 1902–03; Instructor in Political Science, University of Pennsylvania, 1903–04; Professor of Political Science, University of Illinois, since 1904; Editor-in-Chief, American Journal of Criminal Law and Criminology, 1910–11.

†GIBBONS, HENRY WALTER, (1234) Fillmore 3740
Assistant Clinical Professor of Obstetrics and Gynecology, 3491 Pacific, SF-sf

B. S., University of California, 1899; M. D., Cooper Medical College, 1902. Instructor in Pathology, Cooper Medical College, 1905–07, Instructor in Gynecology, 1907–11. At Stanford since 1912.

†GIBBONS, MORTON R., (23) Pacific 1658
Lecturer on Medical Aspect of Insurance, 3979 Washington, SF-sf

A. B., University of California, 1891; M. D., Cooper Medical College, 1894. Instructor in Clinical Medicine, Cooper Medical College, 1904–09. At Stanford 1909–16, and since 1919.

GILBERT, CHARLES HENRY, (12) PA 253
Professor of Zoology, 18 Alvarado

B. S., Butler University, 1879; M. S., Indiana, 1882, Ph. D., 1883. Assistant in Natural Sciences and Modern Languages, Indiana University, 1880–84; Professor of Natural History, University of Cincinnati, 1884–89; Professor of Zoology, Indiana University, 1889–91; Assistant to the U. S. Bureau of Fisheries, since 1880; Assistant, in charge of scientific explorations of the U. S. S. "Albatross," 1889, 1890, 1902, 1904, 1906; in charge of salmon investigations for British Columbia since 1912. At Stanford since 1891.

†GILMAN, PHILIP KINGSNORTH, (1234) Franklin 1090
Assistant Clinical Professor of Surgery, 2467 Jackson, SF-sf

A. B., Stanford, 1901; M. D., Johns Hopkins, 1905. Assistant Resident Surgeon, Johns Hopkins Hospital, 1905–07; Assistant Professor of Pathology, Philippine Medical School, 1907–08; Assistant Professor of Surgery, College of Medicine and Surgery, University of the Philippines, 1908–12, Professor of Surgery and Chief of Department, 1912–16; Chief Surgeon, Philippine General Hospital, 1912–16; Captain, M. C., U. S. A., 1917–19. At Stanford since 1916.

†GIRARD, FRANK ROBERT, (1234) Fillmore 4566
Assistant Clinical Professor of Obstetrics and Gynecology, 3300 Clay, SF-sf

M. D., California, 1903. Volunteer Assistant, Koenigliches Krankenhaus, Berlin, Germany, 1905–06; House Pathologist and House Surgeon, St. Luke's Hospital, New York, 1906–08; Assistant Resident Physician, Sloane Maternity Hospital, New York, 1908–09; Major, M. C., U. S. A., 1917–19; Chief, Surgical Service, Base Hospital No. 47, A. E. F., France. At Stanford since 1914.

GOLDER, FRANK ALFRED, (4)
Acting Professor of History (summer quarter), 3 Salvatierra

A. B., Harvard, 1903, Ph. D., 1909. Instructor in History, University of Missouri, 1908–09, in History and Economics, Boston University, 1909, in History, University of Chicago, 1910; Assistant Professor of History, State College of Washington, 1910–14, Professor, since 1915; Investigator in Russian Archives for Carnegie Institution, Washington (D. C.), 1914–15, for Carnegie Institution and American Geographical Society, 1917; Researches for U. S. Government, in connection with the War, 1917–18.

GRAHAM, HARRINGTON BIDWELL, (1234) Berkeley 1215
Associate Clinical Professor of Surgery (Otology), 2419 Channing, Berkeley-b

B. S., California, 1896, M. D., 1899. Superintendent of Waldeck Sanitarium, 1899; Assistant in Surgery, San Francisco Polyclinic, 1904; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910–11; Lieutenant Commander, U. S. N. R. F., 1918–19. At Stanford since 1912.

†GRAY, HENRY DAVID, (124) PA 1042R
Associate Professor of English, 22 Alvarado

Ph. B., Colgate, 1897; A. M., Columbia, 1898, Ph. D., 1904; Litt. D., Colgate, 1919. Assistant in German and French, Colgate Academy, 1896–97; University Scholar, Columbia University, 1898–1900; Instructor in Dramatic Literature, American Academy of Dramatic Arts, 1900–02; Instructor in English, University of Texas, 1902–05; Lecturer in English, Columbia University, Summer Session, 1905, University of Oregon, Summer Session, 1910, University of Illinois, Summer Session, 1912. At Stanford since 1905.

GREBS, EMIL, (1)
Instructor in Commercial Art, Tamalpais Rd., Berkeley-b

Student, Art Institute, Chicago, Art Students' League, New York, Art Academy, Berlin, 1895–1900; Instructor, California School of Fine Arts, 1917–19; Art Director Foster & Kleiser Company, 1920.

GREEN, BOYNTON MORRIS, (23) PA 361M
Acting Instructor in Machine Design, 642 Webster-p

A. B., Stanford, 1914, Engineer, 1916.

†GREEN, RUFUS LOT, (123) PA 1127J
Professor of Mathematics, 13 Salvatierra

B. S., Indiana, 1885, A. M., 1889. Instructor in Mathematics, Indiana University, 1885–86, Assistant Professor, 1886–88, Associate Professor, 1889–91, Professor of Pure Mathematics, 1891–93; Student, Johns Hopkins University, 1886–87. At Stanford since 1893.

HADDEN, ELIZABETH, (123) PA 734W
Chief of Order Division, Library, 201B Kellogg-p
At Stanford since 1901.

†HALL, HOWARD JUDSON, (4)
Assistant Professor of English, Los Altos
B. S., Michigan State Agricultural College, 1890; A. B., Stanford, 1896; A. M., Harvard, 1900. Professor of English and Librarian, University of Arizona, 1891–1904; Instructor, Army Educational Corps, A. E. F. University, Beaune, Cote d'Or, France, 1919. At Stanford since 1904.

†HARBAUGH, ROSS WALLACE, (123) Pacific 5259
Clinical Instructor in Surgery, 674 10th ave., SF-sf
A. B., Stanford, 1909, M. D., 1913. Resident Physician, St. Mary's Hospital, San Francisco, 1914–15; Assistant Medical Director, State Industrial Accident Commission, 1915–20; Assistant Medical Director, Western States Life Insurance Company, 1915–20. At Stanford since 1915.

†HARCOURT, ROBERT HENRY, (1234) PA 525W
Instructor in Forge Practice, 559 Everett-p
Graduate, Santa Barbara State Normal School, 1917. Apprentice and Blacksmith with Risdon Iron Works, San Francisco, 1898–1901, 1903–04; with Hammond Car and Elevator Company, San Francisco, 1901–02, 1904–05; with National Iron Works, San Francisco, 1902–03; Toolman with Abner Doble Steel Company, San Francisco, 1905–06, Foreman of Forge Shop, 1906–07; Instructor in Machine Shop Practice, Forge Practice, and Sheet Metal Work, State Normal School, Santa Barbara, Summer Session, 1919. At Stanford since 1907.

HARRISON, GEORGE RUSSELL, (123) PA 1439
Instructor in Physics, 7 Cabrillo
A. B., Stanford, 1919, A. M., 1920. At Stanford since 1919.

†HARTMAN, GEORGE WASHINGTON, (123) Franklin 270
Lecturer on Genito-Urinary Surgery, 1275 Bush, SF-sf
B. S., California, 1903; M. D., Johns Hopkins, 1908. Resident Physician, French Hospital, New York City, 1908, Flushing Hospital, 1909; Adjunct in Urology, German Hospital, San Francisco, 1909–18; Urologist, Franklin Hospital, San Francisco, 1918; Chief, Urological Clinic, San Francisco Polyclinic, 1918; Chief of Clinic, San Francisco Hospital, 1917–18. At Stanford since 1919.

HAVEN, MAUDE NOBLE (Mrs.), (123) Fillmore 1151
Clinical Instructor in Medicine, 611 Baker, SF-sf
Ph. B., California, 1894; M. D., Cooper Medical College, 1900. Assistant, Woman's Clinic, Children's Hospital, San Francisco, 1901–04. At Stanford 1914–16, and since 1917.

HAYS, ALICE NEWMAN, (123) PA 1052J
Reference Librarian, 3 Alvarado
A. B., Stanford, 1896; B. L. S., New York State Library School, 1903. Assistant Home Education Department, New York State Library, 1901. At Stanford since 1901.

†HEATH, HAROLD, (123) PA 434J
Professor of Zoology, 1147 Ramona-p
A. B., Ohio Wesleyan, 1893; Ph. D., Pennsylvania, 1898; D. Sc., Ohio Wesleyan, 1919. Assistant in Biology, Ohio Wesleyan University, 1891–93; Professor of Biology, University of the Pacific, 1893–94; Harrison Fellow in Zoology, University of Pennsylvania, 1896–98. At Stanford since 1894.

†HEMPL, GEORGE, (123) PA 617
Professor of Germanic Philology, 355 Kellogg-p

A. B., Michigan, 1879; Ph. D., Jena, 1889; LL. D., Wisconsin, 1904, Michigan, 1915. Principal, Saginaw (Mich.) H. S., 1879–82, La Porte (Ind.) H. S., 1882–84; Instructor in German, Johns Hopkins University, 1884–86; Student, Universities of Göttingen, Tübingen, Strassburg, Jena, and Berlin, 1886–89; Assistant Professor of English, University of Michigan, 1889–93, Junior Professor, 1893–97, Professor of English Philology and General Linguistics, 1897–1906; Professor of English, University of Chicago, summer quarter, 1897; President of the American Dialect Society, 1900–05; President of the Modern Language Association, 1902–03; President of the American Philological Association, 1903–04. At Stanford since 1906.

†HENLINE, HENRY HARRISON, (123) L 39R2
Assistant Professor of Electrical Engineering, 1044 Bryant

B. S., Illinois, 1914. Instructor in Science and Mathematics, Oktaha (Okla.) H. S., 1914–15; Graduate Chicago Central Station Institute, 1916; with Commonwealth Edison Co., 1916–17. At Stanford since 1917.

†HEWLETT, ALBION WALTER, (123) Fillmore 4477
Professor of Medicine, 2442 Union, SF-sf

B. S., University of California, 1895; M. D., Johns Hopkins, 1900; Assistant Professor of Theory and Practice of Medicine, Cooper Medical College, 1906–08; Professor of Internal Medicine, University of Michigan, 1908–16; Lieutenant-Commander U. S. N. R. F., 1917–19. At Stanford since 1916.

†HICKS, JOHN H. G.,
Instructor in Chemistry 412 Cowper-p

HILL, HAROLD PHILLIPS, (123) West 967
Clinical Professor of Medicine, 2336 Steiner, SF-sf

A. B., Stanford, 1898; M. D., California, 1901. Assistant in Physiology, Department of Medicine, University of California, 1889–1901, Instructor, 1901–03; Assistant Visiting Physician, St. Luke's Hospital, 1903–06, Visiting Physician, since 1906. At Stanford since 1912.

†HILL, HENRIE GRANVILLE, (123) San Jose 2186J
Lecturer on Law, 465 S. 15th, San Jose-sj

A. B., Stanford, 1909, J. D., 1911.

HOGUE, ELIZABETH, (3)
Superintendent of Nurses and Professor of Nursing,
San Francisco

A. B., Stanford, 1901.

†HOISHOLT, ANDREW WILLIAM, (123) Napa 294
Clinical Professor of Medicine (Psychiatry),
State Hospital, Napa-n

M. D., Cooper Medical College, 1882; M. D., University of Heidelberg, 1884. Adjunct to chair of Physiology, Cooper Medical College, 1891–95; Assistant Physician, State Hospital, Stockton, 1889–1913; Superintendent, Napa State Hospital, since 1913. At Stanford since 1912.

†HOOVER, THEODORE JESSE, (123) PA 997
Professor of Mining and Metallurgy, 450 Melville-p

A. B., Stanford, 1901. Assayer, Superintendent, Manager, Consulting Engineer, Managing Director, Director, and President of many mining companies in America, Europe, Asia, Africa, and Australia, 1901–19. At Stanford since 1919.

†Hoskins, Leander Miller, (123) PA 75
Professor of Applied Mathematics, 365 Lincoln-p

B. C. E. and B. S., Wisconsin, 1883, M. S., 1885, C. E., 1887. Instructor in Engineering, University of Wisconsin, 1885–89, Assistant Professor of Mechanics, 1889–91, Professor of Theoretical and Applied Mechanics, 1891–92. At Stanford since 1892.

†Howard, Stuart A., (3)
Assistant Professor of Military Science and Tactics, 16 Salvatierra
Major, U. S. A.

†Huston, Charles Andrews, (12) PA 644
Professor of Law, and Dean of the Law School, 21 Salvatierra

A. B., Chicago, 1902, J. D., 1907; S. J. D., Harvard, 1913. Fellow in Political Economy, University of Chicago, 1902–03, Assistant in Rhetoric, 1903–04, Associate in Rhetoric, 1904–06; Professor of Law, University of Chicago, Summer Quarter, 1914, Columbia University, Summer, 1916, Yale University, Summer Quarter, 1920. At Stanford since 1906.

†Hyde, James Macdonald, (12) PA 768W
Professor of Metallurgy, 260 Churchill-p

A. B., Stanford, 1901. Curator, California State Mining Bureau, 1901–02; Assistant Professor of Mining and Metallurgy, University of Oregon, 1903–06; Metallurgist, Guanajuato Consolidated Mining and Milling Co., Guanajuato, Mexico, 1906; Superintendent, Manhattan Ore Reduction and Refining Company, 1907; Field Agent, Mexican Syndicate, 1910; Consulting Engineer and Independent Operator, 1907–19. At Stanford since 1919.

[†Ichihashi, Yamato, PA 932
Assistant Professor of Japanese History and Government,
1010 Emerson-p]

A. B., Stanford, 1907, A. M., 1908; Ph. D., Harvard, 1914. Assistant in Economics, Stanford University, 1908–10; Special Agent for U. S. Immigration Commission, 1908–10; Graduate Student, Harvard University, 1910–12, Henry Bromfield Roger Memorial Fellow in Sociology, 1911–12. At Stanford since 1913.

†Inman, Thomas George, (123) Pacific 7036
Assistant Clinical Professor of Medicine (Neurology),
4547 California, SF-sf

Ph. G., California College of Pharmacy, 1892; M. D., Cooper Medical College, 1894. Assistant Demonstrator of Anatomy, Cooper Medical College, 1895–1900, Instructor in Applied Anatomy, 1900–11; Assistant Surgeon ,St. Luke's Hospital, San Francisco, 1906–13, Visiting Neurologist, since 1915; Neurologist to Navy Base Hospital No. 2, 1917, 1918. At Stanford since 1915.

†Jacobs, S. Nicholas, (123) Fillmore 4278
Assistant Lecturer on Surgery, S. F. Hospital,
3511 Jackson, SF-sf

B. S., California, 1904, M. D., 1908. Resident Physician, Trinity Hospital, 1908–10; Assistant Surgeon, San Francisco Polyclinic, 1917–18; Surgical Chief, San Francisco Polyclinic, 1920; Assistant Visiting Surgeon, San Francisco Hospital, 1917–18; Visiting Surgeon, San Francisco Hospital, 1920. At Stanford since 1919.

†Johnston, Oliver Martin, (124) PA 1040R
Professor of Romanic Languages, 4 Alvarado

A. B., Mississippi College, 1890, A. M., 1892; Ph. D., Johns Hopkins, 1896. Principal, Preparatory Department, Mississippi College, 1890–91, Professor of English, 1891–93; Fellow in Johns Hopkins University, 1895–96; Lecturer in

French Philology, Bryn Mawr College, 1896–97; Secretary, Pacific Coast Philological Association, 1909–13, President, 1917; Professor of French, University of California, Summer Session, 1919. At Stanford since 1897.

†Jones, Eliot, (123) PA 1031W
Associate Professor of Economics, 31 Salvatierra

A. B., Vanderbilt, 1906; A. M., Harvard, 1908, Ph. D., 1913. Instructor in Economics, Harvard University, 1912–13, University of Pennsylvania, 1913–14; Associate Professor of Economics, Iowa State University, 1914–16; Professor of Economics, University of Texas, 1916–17; Federal Trade Commission, 1917; War Industries Board, 1918; Lecturer in Economics, University of California, Summer Session, 1920. At Stanford since 1917.

Keller, Arnold, Jr., (12)
Instructor in Electrical Engineering, 803 Stanford, Mayfield

A. B., Stanford, 1915. At Stanford since 1918.

[*†Kellogg, Vernon Lyman, PA 1141
Professor of Entomology, 14 Cabrillo]

B. S., Kansas, 1889, M. S., 1892; LL. D., California, 1919. Student, Cornell University, 1891, University of Leipzig, 1893; Assistant Professor of Entomology, University of Kansas, 1890–93, Associate Professor, 1893–94. At Stanford since 1894.

†Kennedy, Arthur Garfield, (123) PA 474R
Instructor in English Philology, 1527 Waverley-p

A. B., Doane College, 1902; A. M., Nebraska, 1905; Ph. D., Stanford, 1914. Teacher, Chadron (Neb.) Academy, 1902–04, Norfolk (Neb.) H. S., 1905–08; Instructor in German and English, Spearfish (S. Dak.) State Normal School, 1908–12. At Stanford since 1914.

†Kenney, William, (123) Sunset 1310
Clinical Instructor in Medicine, 1379 6th ave., SF-sf

M. D., California, 1905. Resident Physician, St. Luke's Branch Hospital, 1906–08; Resident Physician, Relief House, 1908–14. At Stanford, 1914–16, 1917–18, and since 1919.

†Kimberlin, Lester Olin, (123) Sunset 2511
Clinical Instructor in Surgery, 124 Ortega, SF-sf

M. D., Cooper Medical College, 1911. Senior Interne, Obstetrics and Gynecology, Lane Hospital, 1912–13. At Stanford since 1918.

†Kirkwood, Marion Rice, (1234) PA 436M
Professor of Law, 1325 Bryant-p

A. B., Stanford, 1909, J. D., 1911. Student, Harvard Law School, 1909–10; Assistant Professor of Law, University of Oklahoma, 1911–12. At Stanford since 1912.

†Knapp, Edward V., (123) San Anselmo 15
Clinical Instructor in Medicine, San Anselmo-sa

M. D., Cooper Medical College, 1907. Interne, City and County Hospital, San Francisco, 1907–08; Contract Surgeon, U. S. A., 1909–10; Instructor in Pathology, San Francisco Veterinary College, 1914–16; Resident Pathologist, St. Luke's Hospital, since 1911; Pathologist, Diagnostic Section, St. Luke's Hospital, San Francisco, 1915. At Stanford since 1918.

* Resigned, June, 1920.

[*†KREHBIEL, EDWARD,
Professor of History, Sacramento]

A. B., Kansas, 1902; Ph. D., Chicago, 1906. Graduate Student, University of Chicago, 1902–06, Fellow, 1903–05, Assistant, 1904–06; Graduate Student, Harvard University, 1904; Student, Ecole de Chartes, Paris, 1905; Instructor, University of Chicago High School, 1905–06; Assistant in History, University of Chicago, 1906–07, Instructor, 1907–09. At Stanford since 1909.

†LANGNECKER, HARRY LESLIE, (123) PA 854
Assistant Clinical Professor of Surgery (Orthopedic), 320 Embarcadero-p

A. B., Stanford, 1901; M. D., Johns Hopkins, 1906. Gynecological House Officer, Johns Hopkins Hospital, 1906–08; Orthopedic House Officer, Massachusetts General Hospital, 1908, Assistant in Orthopedic Surgery, Out-Patient Department, 1909–11, Assistant Resident Physician, 1911–13, Assistant to Orthopedic Surgeon-in-Chief, 1913–15; Lieutenant, M. C., U. S. N. R. F., 1917–19. At Stanford since 1915.

LAYMAN, MARY, (123) Fillmore 1953
Clinical Instructor in Medicine, 2582 Filbert, SF-sf

M. D., Ludwig-Maximilian University, Munich, 1913. Assistant, Medical and Pediatric Clinic, Munich, 1915–16; Assistant Visiting Physician, Pediatrics, San Francisco Hospital, 1917–19. At Stanford since 1917.

†LEARNED, HENRY BARRETT, (23)
Lecturer in History, 20 Lasuen

A. B., Harvard, 1890, A. M., 1897; A. M., Chicago, 1894; Ph. D., Yale, 1909. Student, University of Leipzig, 1899–1900; Teacher of History, University School, Chicago, 1892–93; in Charge of Department of History, Armour Institute, 1894–96; Assistant in History, Harvard University, 1897–98, Instructor, Harvard Summer School, 1898; Instructor in History, Sheffield Scientific School, Yale University, 1900–06; Lecturer in History, Wesleyan University, 1909–10; with Bureau of Investigation, Department of Justice, Washington (D. C.), 1917–19.

†LEMOS, PEDRO J., (123) PA 396J
Curator of the Museum, 460 Churchill-p

Assistant Professor of Etching and Lettering, University of California, 1910–11, Professor of Design and Applied Arts, 1911–12; Director of San Francisco Institute of Art, 1912–17; Exhibitor, Pennsylvania Academy of Fine Arts, Carnegie Institute, Pittsburgh, Brooklyn Museum of Fine Arts, Chicago Art Institute, New York Galleries, Panama-Pacific International Exposition; editor of the School Arts Magazine. At Stanford since 1917.

†LENOX, LIONEL REMOND, (123) Mt. View 47
Professor of Analytical Chemistry, Mountain View

Ph. B., Columbia, 1888. Assistant Chemist, Bethlehem Steel Co., 1887; Instructor in Chemistry, Lehigh University, 1888–91; Chemist, Ordnance Department, U. S. N., Washington (D. C.), 1891–92; Chief Chemist, Conkling Iron Co., 1888–92; Chemist, Allan Cement Co., 1890–91. At Stanford since 1892.

†LESLEY, EVERETT PARKER, (123) PA 253
Professor of Mechanical Engineering, 18 Alvarado

A. B., Stanford, 1897; M. M. E., Cornell, 1905. Apprentice and Foreman in Union Iron Works, San Francisco, 1897–1903; Assistant Inspector to Naval Constructor, 1903–04; Draftsman at U. S. Experimental Model Basin, Washington (D. C.), 1905–07. At Stanford since 1907.

* Resigned, January, 1920.

†Liggett, James Bennett, (1234)
Instructor in Foundry Practice, 313 Ramona Bldg-p

Apprentice and Foundry Moulder, Falls Rivet and Machine Co., Cuyahoga Falls (Ohio), 1883–88, Webster, Camp & Lane, Akron (Ohio), 1888–93, Bowler & Co., Cleveland (Ohio), 1893–98; Cleveland Steel Casting Co., 1898–99; Foreman, Born Steel Range Co., Cleveland (Ohio), 1899–1902, Westinghouse Electric Co., Cleveland (Ohio), 1902. At Stanford since 1902.

Lothrop, Margaret Mulford, (234) PA 1028W
Instructor in Economics, 6 Cabrillo

A. B., Smith, 1905; A. M., Stanford, 1915. At Stanford since 1915.

Luttrell, Peter Harrison, (12) West 7619
Clinical Instructor in Medicine, 2617 Sacramento, SF-sf

M. D., Cooper Medical College, 1908. Assistant in Medical Clinic, Cooper Medical College, 1908–10, Instructor in Physical Diagnosis, 1910–11; Assistant in Medical Wards, Lane Hospital, 1911–14; Assistant, Stanford Medical School, 1916–17.

McClenahan, Henry Corbin, (123) Franklin 7882
Lecturer in Medicine (Neurology), 1105 Greenwich Terrace, SF-sf

M. D., Tulane, 1895. Associate Professor of Nervous and Mental Diseases and Legal Medicine, Cooper Medical College, 1910–12. At Stanford since 1919.

†McClintock, Miller L., (1234) PA 1107R
Instructor in English, 458 Channing-p

A. B., Stanford, 1918, A. M., 1920.

McCracken, Isabel, (123) PA 1127W
Assistant Professor of Entomology, 1 Arguello

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1908. Student, Paris and London, 1912–13. At Stanford since 1904.

†McDowell, John Ezra, (123)
Academic Secretary, and Alumni Secretary, Los Altos

A. B., Stanford, 1900. At Stanford since 1900.

†McFarland, Frank Mace, (123) PA 480
Professor of Histology, 2 Cabrillo

Ph. B., De Pauw, 1889; A. M., Stanford, 1893; Ph. D., Würzburg, 1896. Professor of Biology and Geology, Olivet College, 1889–92; Student, Würzburg, Zürich, and Naples, 1894–96. At Stanford since 1892.

†McKee, Albert Brown, (1234) Redwood 1704F4
Clinical Professor of Surgery (Ophthalmology), Redwood City-r

Ph. B., University of the Pacific, 1883, Ph. M., 1886; M. D., Cooper Medical College, 1886. Instructor and Acting Head of the Eye, Ear, Nose, and Throat Division, University of California Medical Department, 1902–08; Associate Professor of Ophthalmology, Cooper Medical College, 1908–12. At Stanford since 1912.

†Macklin, Charles Clifford, (4)
Acting Assistant Professor of Anatomy (Summer Quarter), 575 Addison

M. B., Toronto, 1914. James H. Richardson Fellow in Anatomy, University of Toronto, 1912–13; Assistant and Instructor in Anatomy, Johns Hopkins University, 1914–17; Assistant Professor of Anatomy, University of Pittsburgh, 1918–19; Associate in Anatomy, Johns Hopkins University since 1919.

†McMURPHY, JAMES IRA WILSON, (1234)
Assistant Professor of Botany, 411 Yale, College Terrace
A. B., Stanford, 1908, A. M., 1909. At Stanford since 1908.

†McNAUGHT, HARVARD YOUNG, (1234) Pacific 8561
Associate Clinical Professor of Surgery (Otology, Rhinology, Laryngology), 144 27th ave., SF-sf
M. D. C. M., Trinity University, 1897. Fellow by Examination, Trinity Medical College, 1897; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1911–12. At Stanford since 1913.

†MALONEY, HENRY WILFRED, (123) PA 696
Instructor in Physical Training, 176 Waverley

†MANNING, WILLIAM ALBERT, (123) PA 689R
Associate Professor of Applied Mathematics, 604 Tennyson-p
A. B., Willamette University, 1900; A. M., Stanford, 1902, Ph. D., 1904. Student, University of Paris, 1904–05; Acting Assistant Professor of Mathematics, University of Illinois, 1909–10. At Stanford since 1900.

†MANWARING, WILFRED HAMILTON, (234)
Professor of Bacteriology and Experimental Pathology, 364 Kingsley-p
B. S., Michigan, 1895; M. D., Johns Hopkins, 1904. Fellow and Assistant in Pathology, University of Chicago, 1904–05; Associate Professor of Pathology, Indiana University, 1905–07; Traveling Fellow, Rockefeller Institute, 1907–08, v. Wassermann's Laboratory, Berlin, 1907–08, Ehrlich's Laboratory, Frankfort-on-Main, 1908–09, Lister Institute of Preventive Medicine, London, 1909–10; Assistant in Pathology, Rockefeller Institute, 1910–13. At Stanford since 1913.

†MARTIN, ERNEST GALE, (1234)
Professor of Physiology, 1525 Waverley
Ph. B., Hamline, 1897; Ph. D., Johns Hopkins, 1904. Assistant in Biology, Hamline University, 1896–97; Fellow in Physiology, Johns Hopkins University, 1902–03, Assistant, 1903–04; Instructor in Anatomy and Physiology, Purdue University, 1904–06; Instructor in Physiology, Harvard University, 1906–10, Assistant Professor, 1910–16; Instructor in Physiology, Simmons College, 1907–08; Lecturer in Physiology, Sargent School for Physical Education, 1906–14; Assistant Professor of Physiology, Radcliffe College, 1914–16. At Stanford since 1916.

†MARTIN, ERNEST WHITNEY, (123) PA 132
Associate Professor of Greek, 525 Lincoln
A. B., Chicago, 1900; A. M., Stanford, 1902, Ph. D., 1910. Instructor in Latin and Greek, Private School, Clarinda (Ia.), 1895–96, Principal of High School, 1896–98; Student, University of Berlin and American School of Classical Studies, Rome, 1900–01; Acting Professor of Latin and Greek, University of Nevada, 1908–09, Professor of Greek, 1909–10. At Stanford since 1901.

†MARTIN, PERCY ALVIN, (123) PA 455M
Associate Professor of European History, 380 Kingsley
A. B., Stanford, 1902, A. M., 1903; A. M., Harvard, 1907, Ph. D., 1912, Student, University of Paris, 1903–04, Universities of Berlin and Leipzig, 1907–08; Fellow, Harvard University, 1908; Professor of History and French, Whittier College, 1904–05; Lecturer in Latin-American History, Harvard University, 1915; Lecturer in South American History and Institutions, University of Washington, Summer Session, 1916. At Stanford since 1908.

†MARX, CHARLES DAVID, (123) PA 255
Professor of Civil Engineering, 357 Kingsley

B. C. E., Cornell, 1878; C. E. Karlsruhe Polytechnicum, 1881; LL. D., California, 1918. Instructor in Civil Engineering, Karlsruhe Polytechnicum, 1880–81; U. S. Assistant Engineer, Missouri and Mississippi River Improvement, 1882–84; Assistant Professor of Civil Engineering, Cornell University, 1884–90; Professor of Civil Engineering, University of Wisconsin, 1890–91. At Stanford since 1891.

†MARX, GUIDO HUGO (1) PA 715
Professor of Machine Design, 356 Lincoln

M. E., Cornell, 1893. With Gleason Tool Co., Rochester (N. Y.), 1893–94; with Bement, Miles & Co., Philadelphia, 1894–95. At Stanford since 1895.

MEHRTENS, HENRY GEORGE, (1234) West 6193
Assistant Clinical Professor of Medicine (Neurology), 2407 Pacific ave., SF-sf

B. S., California, 1911; M. D., Stanford, 1913. Senior House Officer, Lane Hospital, 1914–15, House Physician, since 1915. At Stanford since 1915.

MEUSE, MAUDE, (3)
Instructor in Theory of Nursing, San Francisco

†MEYER, ARTHUR WILLIAM, (123) PA 1225
Professor of Anatomy, 121 Waverley-p

B. S., Wisconsin, 1898; M. D., Johns Hopkins, 1905. Assistant and Instructor in Anatomy, Johns Hopkins University, 1905–07; Assistant Professor of Anatomy, University of Minnesota, 1907–08; Professor of Anatomy, Northwestern University, 1908–09; Research Associate, Carnegie Institution, 1917–18. At Stanford since 1909.

MIRRIELEES, EDITH RONALD, (1234) PA 653M
Instructor in English, 1230 Emerson-p

A. B., Stanford, 1907. At Stanford since 1909.

†MITCHELL, JOHN PEARCE, (123) PA 722
Associate Professor of Chemistry, 235 Embarcadero

A. B., Stanford, 1903, A. M., 1904, Ph. D., 1909. Student, University of Leipzig, 1904–05. At Stanford 1903–04 and since 1905.

†MOORE, CHESTER BIVEN, (123) Fillmore 922
Clinical Instructor in Obstetrics and Gynecology, 2327 Divisadero, SF-sf

B. S., California, 1906, M. D., 1910. Interne, University of California Hospital, 1910–11; House Officer, Children's Hospital, Boston, 1911–12. At Stanford since 1913.

†MORENO, HALCOTT CADWALADER, (123) PA 526J
Professor of Applied Mathematics, 28 Alvarado

A. B., University of Georgia, 1893, A. M., 1894, B. L., 1896; Ph. D., Clark, 1900. Tutor in Mathematics, University of Georgia, 1893–97; Scholar and Fellow in Mathematics, Clark University, 1897–1900, Assistant in Mathematics, 1900–01. At Stanford since 1901.

†MOSER, CHARLES, (123) PA 592J
Assistant Professor of Civil Engineering, 651 Homer-p

C. E., Ohio Northern University, 1902; A. B., Stanford, 1908. At Stanford since 1908.

[MOSHER, CLELIA DUEL, PA 23
Assistant Professor of Personal Hygiene, and Medical Adviser of Women, 1094 Emerson]

A. B., Stanford, 1893, A. M., 1894; M. D., Johns Hopkins, 1900. Assistant in Hygiene and Physical Training, Stanford University, 1893–94, Instructor, 1894–96; Externe in the Johns Hopkins Hospital Dispensary, and Gynecological Assistant in Dr. Howard A. Kelly's Sanatorium, Baltimore (Md.), 1900–01; Physician, Palo Alto, 1901–10. At Stanford, 1893–96, and since 1910.

†MURRAY, AUGUSTUS TABER, (234) PA 1405
Professor of Greek, 1019 Bryant

A. B., Haverford, 1885; Ph. D., Johns Hopkins, 1890. Fellow in Johns Hopkins University, 1887–88; Professor of Greek, Earlham College, 1888–90; Student Universities of Leipzig and Berlin, 1890–91; Professor of Greek, Colorado College, 1891–92. At Stanford since 1892.

NEWNAN, EVA MAY, (123)
Acting Instructor in Latin, Mountain View-mv

A. B., Stanford, 1915, A. M., 1916.

†NICHOLS, WALTER HAMMOND, (4)
Instructor in Education (Summer Quarter), 1345 Webster-p

B. S., Michigan, 1891; A. M., Columbia, Teachers' College, 1901. Special Work in Education, History, and Economics, Universities of Michigan, Chicago, and Colorado, 1891–98; Instructor in History, University of Colorado, 1897–98; Secretary of Teachers' College, Columbia University, 1898–1900; Professor of History and Economics, and High-School Inspector, University of Colorado, 1901–03; Teacher in Pasadena High School, 1913–15; Superintendent of Schools, Palo Alto, 1915–19, Principal of High School, since 1915.

†O'CONNOR, RODERIC, (123) Oakland 4009
Clinical Instructor in Surgery (Ophthalmology), Hotel California, SF-sf

M. D., Pennsylvania, 1900. Interne, St. Mary's Hospital, Philadelpha; First Lieutenant, Medical Corps, U. S. A., 1901; Honor Graduate, Army Medical School, 1902; Major, Medical Corps, U. S. A., 1910–14. At Stanford since 1918.

*OERTLY, ERNEST, (1)
Instructor in Organic Chemistry,

B. S., University of Geneva (Switzerland), 1909, D. S., 1911. Diploma at Technical School, Winterthur, Switzerland, 1907; Chemist to Arnold Print Works, North Adams, Mass., 1912–13; Assistant Manager and Chemist Colorist to Frederick Oertly, Cotton Print Works, Naefels, Switzerland, 1914–16; Research Chemist, Organic Laboratory, Sherwin-Williams Co., Chicago, 1917. At Stanford since 1918.

OLIVER, HARRY REEVES, (123) Fillmore 1720
Assistant Clinical Professor of Medicine (Serology), 2749 Union, SF-sf

M. D., Cooper Medical College, 1898. Assistant in Pathology, Cooper Medical College, 1898–1904, Instructor, 1904–06, Assistant Professor, 1906–11, Associate Professor of Clinical Pathology, 1911–12, Serologist, 1912. At Stanford since 1909.

* Deceased, January 5, 1920.

†Oliver, Jean Redman, (1234) Franklin 3191
Associate Professor of Pathology, 1246 Lombard, SF-sf

A. B., Stanford, 1911, M. D., 1914. Assistant in Pathology and Bacteriology, Rockefeller Institute for Medical Research, 1916–18, Associate, 1919; First Lieutenant and Major, M. C., U. S. A., Camp Meade (Md.); Group Laboratory Officer, Justice Hospital Group, Toul, France; Detailed on Medical History of the War, Central Medical Department Laboratory, Dijon, France, and Surgeon General's Office, Washington (D. C.), 1917–19. At Stanford 1914–16, and since 1919.

Olmsted, James,
Acting Instructor in Physiology (Summer Quarter)
Pacific Grove-pg

†O'Neill, Arthur Aloysius, (1234) Park 6196
Clinical Instructor in Medicine (Pediatrics), 100 Dolores, SF-sf

M. D., Cooper Medical College, 1891. Assistant Surgeon, Cooper Medical College Clinic, 1893; Assistant in Diseases of the Skin, San Francisco, Polyclinic, since 1902; in charge of Isolation and Plague Hospital, 1907–10, of Isolation Hospital, 1912. At Stanford since 1913.

Ophüls, Louise, (123) West 2892
Medical Librarian, Lane Medical Library,
2186 California, SF-sf

At Stanford since 1910.

†Ophüls, William, (1234) Fillmore 1680
Dean of the Medical School, and Professor of Pathology,
114 Walnut, SF-sf

M. D., University of Göttingen, 1895. Assistant at the Pathologic Institute at Göttingen, 1896–97; Professor of Pathology and Bacteriology, University of Missouri, 1897–98; Professor of Pathology and Bacteriology, Cooper Medical College, 1898–1912; Pathologist, Lane Hospital, since 1898; Instructor in Pathology, Training School for Military Officers, U. S. A., 1918. At Stanford since 1909.

Otis, Arthur Sinton, (4)
Instructor in Education (Summer Quarter), 660 Waverley-p

A. B., Stanford, 1910, A. M., 1915, Ph. D., 1920. Chief Statistician, Division of Psychology, Office of the Surgeon General, Washington (D. C.), 1917–18; Psychological Examiner, Camp Lee, Va., 1918–19; Member of Staff, Pacific Coast Bureau of Employment Research, San Francisco, since 1919.

Owen, Ethel Dale, (123) Fillmore 2370
Medical Adviser of Women, 2402 California, San Francisco

A. B., Stanford, 1914, M. D., 1917.

†Owens, William Brownlee, (4)
Associate Professor of Law,

LL. B., Stanford, 1915. At Stanford, 1915–16, and since 1920.

†Palmateer, Theron J., (123) PA 423W
Instructor in Machine Shop Practice, 171 E. Oxford, Mayfield-m

Apprentice with Sibley & Ware, South Bend (Ind.); Journeyman Machinist, 1896–1905, with R. Hoe & Co., New York, Columbus Machine Works, Columbus (Ohio), Elems Engineering Works, Chicago, Western Gas Engine Works, Mishawaka (Ind.), Webster Iron Works, Bakersfield (Cal.), R. S. Hunkins, San Jose (Cal.). At Stanford since 1904.

PALMER, CAROLINE B., (123) West 6523
Clinical Instructor in Surgery (Anesthetics), 2401 Sacramento, SF-sf

M. D., Cooper Medical College, 1906. Chief Anesthetist, Lane Hospital, since 1909. At Stanford since 1917.

†PARK, CHARLES V., (123) PA 1188W
Assistant Librarian, 1080 Emerson-p

A. B., Stanford, 1919. Certificate, New York Public Library, Library School, 1915. At Stanford since 1909.

†PARKER, SAMUEL MINTER, (12) PA 1336
Professor of Military Science and Tactics, 16 Salvatierra

Major, U. S. A., retired.

†PEIRCE, GEORGE JAMES, (1234) PA 1226J
Professor of Botany and Plant Physiology, 281 Embarcadero

S. B., Harvard, 1890; A. M. and Ph. D., Leipzig, 1894. Assistant in Botany, Harvard University and Radcliffe College, 1890–92; Parker Fellow in Harvard University, studying in Bonn, Leipzig, and Munich, 1892–94; Assistant Professor of Botany, Indiana University, 1895–97; Acting Professor of Botany, University of Wisconsin, second semester, 1910–11. At Stanford since 1897.

PICHEL, IRVING, (4)
Lecturer on Dramatic Art (Summer Quarter), Stanford Union

†PIERSON, PHILIP HALE, (1234) Pacific 7907
Clinical Instructor in Medicine, 134 17th ave., SF-sf

A. B., Yale, 1908; M. D., Harvard, 1913. House Officer, Massachusetts General Hospital, 1914–15. At Stanford since 1916.

†PRICE, GEORGE CLINTON, (123) PA 1053
Professor of Zoology, 5 Alvarado

B. S., De Pauw, 1890; Ph. D., Stanford, 1897. Student in Biology, Johns Hopkins University, 1890–92, University of Munich, 1895–96. At Stanford since 1892.

†PROCTOR, WILLIAM MARTIN, (123) PA 1040J
Assistant Professor of Education, 5 Salvatierra

A. B., Whitman, 1901; A. M., Stanford, 1916, Ph. D., 1919. Teacher of History and Civics, Cheney (Wn.) State Normal School, 1909–10; Professor of Education, Pacific University, Forest Grove, Oregon, 1911–15, Dean of Faculty, 1914–15. At Stanford since 1916.

†RAKESTRAW, NORRIS WATSON, (1234)
Instructor in Chemistry, 677 Melville

A. B., Stanford, 1916, A. M., 1917.

†READ, JAY MARION, (123) West 8705
Clinical Instructor in Medicine, 1571 Fulton, SF-sf

B. S., California, 1912, M. S., 1913; M. D., Stanford, 1915. Assistant, Medical Clinic, Stanford Service, San Francisco Hospital, since 1916; Captain, M. R. C., U. S. A., 1917–19.

†REED, ALFRED CUMMINGS, (1234) Bayview 841
Assistant Clinical Professor in Medicine, 327 21st ave., SF-sf

A. B., Pomona, 1906; M. D., Bellevue Medical College, 1910. Instructor in Pharmacology, Bellevue Medical College, 1910–11; Assistant Surgeon U. S.

Public Health Service, 1911–13; Attending Physician, Yale Hospital, Changsha, China, 1913–15; Lieutenant, M. C., U. S. N., R. F., 1917–19; Chief of Medical Service, Mare Island Naval Hospital, 1918–19; Editor California State Journal of Medicine, since 1917; Chief of Medical Clinic, 1918–20. At Stanford since 1916.

†RENDTORFF, KARL GUSTAV, (123) PA 335J
Professor of German, Salvatierra

A. M., Stanford, 1894, Ph. D., 1896. Student, University of Giessen, 1884–85, University of Kiel, 1885–91. At Stanford since 1894.

†RIGDON, RUFUS LEE, (1234) Fillmore 2285
Clinical Professor of Surgery (Genito-Urinary), 1617 Broderick, SF-sf

M. D., Cooper Medical College, 1887. Assistant and Instructor in Genito-Urinary Clinic, Cooper Medical College, 1888–98, Associate Professor of Genito-Urinary Surgery and Chief of Genito-Urinary Clinic, 1898–1908, Professor of Genito-Urinary Surgery, 1908–12. At Stanford since 1912.

RITTER, ARTHUR JOHN, (123) San Anselmo 8
Lecturer on Mental Deficiency, Ross-r

Graduate Teachers' College, Zürich (Switzerland), 1897. Research Assistant, Racial Studies, Johannesburg (South Africa), 1898–1901; Student, Paris, 1902–03; Instructeur des enfants arrières, Paris, 1904–05; Private Case Work with Feeble-minded Children, 1906–11; Home School for Nervous and Backward Children, 1912; Lecturer, Department of Criminology, University of California, Summer Session, 1920. At Stanford since 1916.

†RIXFORD, EMMET, (123) Franklin 5100
Professor of Surgery, 1795 California, SF-sf

B. S., California, 1887; M. D., Cooper Medical College, 1891. Adjunct Professor of Surgery, Cooper Medical College, 1893–98, Professor, 1898–12; Visiting Surgeon, Lane Hospital, 1895, City and County Hospital, San Francisco, since 1899; Instructor in Surgery, Training School for Military Officers, U. S. A., 1918. At Stanford since 1909.

[†ROBINSON, EDGAR EUGENE,
Associate Professor of American History, 27 Salvatierra]

A. B., Wisconsin, 1908, A. M., 1910. Assistant in History, University of Wisconsin, 1908–09, Fellow in American History, 1909–10; Assistant Professor of History, Carleton College, 1910–11; Instructor in History, University of Minnesota, Summer Session, 1912, Resident Lecturer, 1915–16; Assistant Professor of History, University of Michigan, Summer Session, 1916; Assistant Educational Director, S. A. T. C., 1918; Visiting Professor of American History, Yale University, 1919–20. At Stanford since 1911.

†ROGERS, AUSTIN FLINT, (123) PA 1081W
Professor of Mineralogy, 15 Salvatierra

A. B., Kansas, 1899, A. M., 1900; Ph. D., Columbia, 1902. Assistant in Mineralogy, University of Kansas, 1898–1900; Assistant Geologist, University Geological Survey of Kansas, 1898–1900, 1903; Fellow in Mineralogy, Columbia University, 1900–02, Tutor in Mineralogy, 1902–05. At Stanford since 1905.

†ROGERS, FREDERICK JOHN, (123) SJ 4589
Associate Professor of Physics, 550 S. 6th, San Jose

M. S., Cornell, 1891. Instructor in Physics, Cornell University, 1892–1900. At Stanford since 1900.

†Root, William Thomas, Jr., (12)
Buckel Fellow in Education, 2 Salvatierra
A. B., Stanford, 1912, A. M., 1913, Ph. D., 1920. Teacher of Psychology, Los Angeles State Normal School, 1913–18.

†Ross, Perley Ason, (123) PA 689J
Assistant Professor of Physics, 1830 Cowper
A. B., Stanford, 1908, A. M., 1910, Ph. D., 1911. At Stanford since 1908.

†Roth, Almon Edward, (23)
Comptroller, Stanford Campus
A. B., Stanford, 1909, J. D., 1912.

†Rothganger, George, (12) Piedmont 3205
Assistant Clinical Professor of Surgery, 4501 San Pablo, Oakland-o
A. B., California, 1885; M. D., Cooper Medical College, 1888. Medical Officer, United States Navy, 1889–1908. At Stanford since 1913.

†Rumwell, Melville E., (1234) Douglas 316, Fillmore 808
Associate Clinical Professor of Surgery, 3467 Pacific ave.
M. D., Cooper Medical College, 1895. Instructor, Cooper Medical College, 1900–08; Visiting Physician, San Francisco Hospital, 1900–08; Chief, Surgical Clinic, Fruit and Flower Mission, 1908–10; Assistant, Surgical Clinic, Stanford Medical School, 1910–17.

Russell, Frances Theresa (Mrs.), (123) PA 1207M
Assistant Professor of English, 609 Kingsley-p
Ph. B., Iowa, 1895; Ph. D., Columbia, 1920. Teacher in Denison (Ia.) Normal School, 1895–96; Principal, Villisca (Ia.) High School, 1896–98; Graduate Student at Radcliffe College, 1898–99; Teacher in Anamosa (Ia.) High School, 1899–1900. At Stanford since 1905.

†Russell, Frank Marion, (123)
Acting Assistant Professor of Political Science, 3 Salvatierra
A. B., Stanford, 1912, A. M., 1913. Student, Columbia University, 1915; Assistant Professor of Political Science, University of Nevada, 1916; Instructor, State College of Washington, 1917–18, Assistant Professor, 1918–19; Assistant Professor of Political Science, University of Washington, Summer Session, 1919. At Stanford since 1919.

†Russell, Tracy George, (123) Sutter 7070
Lecturer on Surgery (S. F. Hospital), Hotel Cartwright, SF-sf
A. B., Stanford, 1895; M. D., Columbia, 1899. Surgical Interne, St. Luke's Hospital, New York, 1899–1901; Assistant in Surgery, University of California, 1901–11; Attending Surgeon, San Francisco Hospital, 1906–18, San Francisco Polyclinic, 1910–18.

†Ryan, Harris Joseph, (123) PA 1075
Professor of Electrical Engineering, 453 Webster
M. E., Cornell, 1887. With Western Engineering Co., Lincoln (Neb.), 1887–88; Instructor in Physics, Cornell University, 1888–89, Assistant Professor of Electrical Engineering, 1889–92, Associate Professor, 1892–95, Professor, 1895–1905; Judge, Board of Awards, World's Fair, Chicago, 1893; U. S. Government Delegate, International Electrical Congress, St. Louis Exposition, 1904. At Stanford since 1905.

RYFKOGEL, HENRY ANTHON LEWIS, (123) Franklin 2241
Lecturer on Surgery, Bohemian Club, SF-sf

M. D., California, 1894. Instructor Anatomy, University of California, 1894–95, Instructor in Clinical Pathology, Medical Department, 1895–1900, Instructor in Bacteriology, 1900–06, in Surgical Pathology, 1906–07; Surgeon, San Francisco Polyclinic, and Visiting Surgeon, St. Francis Hospital, since 1904.

SANDERS, NATHANIEL, (1234) PA 1035
Instructor in Economics, 22 Lasuen

A. B., California, 1898. At Stanford since 1918.

SCHAEFFER, RUDOLPH, (4)
Instructor in Design, San Francisco

Sometime Student at Royal Arts and Crafts School, Munich; Pupil of Professor Hoffman, Vienna, and of Ernest Batchelder and Ralph Johonnot, California; Member of Faculty of the San Francisco School of Art.

†SCHALLER, WALTER FRANK, (123) Market 5863
Associate Clinical Professor of Medicine (Neurology),
783 Ashbury, SF-sf

M. D., Cooper Medical College, 1902. Assistant in Pathology, Cooper Medical College, 1905–06; Assistant Surgeon, U. S. N., 1906–08. At Stanford since 1911.

†SCHAUPP, KARL LUDWIG, (1234) Pacific 3417
Clinical Instructor in Obstetrics and Gynecology, 437 Lake, SF-sf

A. B., Stanford, 1913, M. D., 1916.

†SCHULTZ, EDWIN WILLIAM, (234)
Assistant Professor of Bacteriology and
Experimental Pathology, Menlo Park

B. S., Winona College, 1913; A. B., Michigan, 1914; M. D., Johns Hopkins, 1917. Special Student in Protozoology, School of Hygiene and Public Health, Johns Hopkins, Autumn Quarter, 1919–20; Field Director, International Health Board, 1917; Chief of Laboratory, 33d Division, U. S. Army, and Pathologist, Base Hospital No. 42, A. E. F., 1917–18; Chief of Laboratory, A. R .C. Military Hospital No. 9, A. E. F.; Bacteriologist, A. R. C. Commission to Germany, and Chief of Bureau of Medical Research, A. R. C. Commission to Poland, 1918–19; First Lieutenant and Captain, M. C., U. S. A., and Deputy Commissioner (Major, U. S. A.), American Red Cross, 1917–19; Major, M. R. C., U. S. A. At Stanford since January, 1920.

†SEARS, JESSE BRUNDAGE, (234) PA 1145W
Associate Professor of Education, 270 Stanford-p

A. B., Stanford, 1909; Ph. D., Teachers' College, Columbia, 1920. Student, University of Chicago, Summer Quarter, 1910; Research Scholar, Teachers' College, Columbia University, 1910–11; Instructor in Education, University of Wisconsin, 1909–10; Assistant in Educational Sociology, Teachers' College, Columbia University, Summer Session, 1911. At Stanford since 1911.

SELLARDS, JOHN A., (234) PA 644
Instructor in French, 21 Salvatierra

A. B., Illinois, 1912; A. M., Stanford, 1916. At Stanford 1916–17, and since 1920.

SELLING, NATHALIE, (123) Garfield 1393
Clinical Instructor in Medicine (Electrotherapy),
391 Sutter, SF-sf

M. D., California, 1894. At Stanford since 1917.

†DE SETIÉN, FELIPE MORALES, (4)
Acting Assistant Professor of Romanic Languages (Summer Quarter), Los Angeles

B. A., University of Madrid, 1904, Licenciado en Filosofia y Letras, 1913. Graduate Student in Spanish Philology, Centro de Estudios Históricos, Madrid, 1916–17; Pensionado de la Junta Para Amplicacion de Estudios, Madrid; Instructor of Romanic Languages, Stanford University, 1917–19; Assistant Professor of Romanic Languages, University of Southern California, since 1919.

†SEWALL, CHESTER DURBIN, (1234) Fillmore 3736
Clinical Instructor in Medicine, 2010 Vallejo, SF-sf

M. D., Cooper Medical College, 1906. At Stanford since 1915.

†SEWALL, EDWARD CECIL, (1234) Fillmore 4242
Clinical Professor of Surgery (Otology, Rhinology, Laryngology), 3515 Pacific, SF-sf

A. B., Stanford, 1898; M. D., Cooper Medical College, 1902. Assistant and Instructor in Ophthalmology, Cooper Medical College, 1901–07, Assistant Professor, 1907–09; Student in Freiburg, 1909–10; Associate Porfessor of Diseases of Eye, Ear, Nose, and Throat, Cooper Medical College, 1910–12. At Stanford since 1912.

†SEWARD, SAMUEL SWAYZE, JR., (123) PA 779W
Associate Professor of English, 262 Kingsley-p

A. B., Columbia, 1896, A. M., 1897. Scholar in Literature, Columbia University, 1896–97, Assistant in Literature, 1897–99; Student, Oxford University, 1899–1900; Acting Professor of English, University of Nevada, 1907; Assistant Professor of English, University of California, Summer Session, 1907, University of Oregon, Summer Session, 1908. At Stanford since 1900.

†SHAFER, GEORGE DANIEL, (123)
Instructor in Physiology, 321 Melville-p

A. B., Indiana, 1900; A. M., Stanford, 1906; Ph. D., Cornell, 1908. Fellow in Entomology and Invertebrate Zoology, Cornell University, 1906–08; Research Assistant, Experiment Station, Michigan Agricultural College, 1908–14, Associate, 1914–17. At Stanford since 1918.

†SHARPE, OTIS ALLEN, (123) Pacific 9377
Clinical Instructor in Surgery, 262 32d ave., SF-sf

B. S., California, 1912, M. S., 1913; M. D., Stanford, 1916. Instructor in Physiology and Biochemistry, University of California, 1913–14; Interne, San Francisco Hospital, 1916–17. At Stanford since 1917.

SHOW, ARLEY BARTHLOW, (134) PA 865
Professor of European History, 446 Forest

A. B., Doane College, 1882; Graduate, Andover Theological Seminary, 1885; A. M., Doane, 1892. Pastor Congregational Church, Waco (Nebr.), 1885–87; Professor of History and English Literature, Doane College, 1887–92; Student, University of Leipzig, 1900–01; Lecturer on History of the Early Church, Pacific Theological Seminary, Berkeley, 1905–07. At Stanford since 1892.

†SLOAN, WILLIAM HENRY, (124) PA 1954R2
Assistant Professor of Chemistry, Alta Mesa, Box 105-p

A. B., Stanford, 1903, A. M., 1904. Student, University of Leipzig, 1904–05; Assistant Chemist, San Francisco Board of Health, 1905–06. At Stanford 1903–04 and since 1906.

†Slonaker, James Rollin, (123) PA 451
Assistant Professor of Physiology, 334 Kingsley-p

B. S., Wisconsin, 1893; Ph. D., Clark, 1896. Fellow in Biology, Clark University, 1893–96; with United States Fish Commission, Woods Hole (Mass.), Summer, 1895; Instructor in Zoology, Indiana University, 1896–99, Indiana University Biological Station, 1896–1900; Assistant Professor of Zoology, Indiana University, 1899–1901; Research Assistant in Neurology, University of Chicago, 1901–02, Associate in Neurology, 1902–03. At Stanford since 1903.

†Smith, Everett Wallace, (123) PA 1041
Assistant Professor of English, 12 Alvarado

A. B., Stanford, 1899. At Stanford since 1910.

Smith, Hazel C., (Mrs.),
Assistant Superintendent of Nurses, San Francisco

†Smith, James Perrin, (123) PA 1218W
Professor of Paleontology, 1335 Cowper-p

A. B., Wofford College, 1884; A. M., Vanderbilt, 1886; Ph. D., Göttingen, 1892; LL. D., Wofford College, 1916. Assistant Geologist and Chemist, Arkansas Geological Survey, 1887–90; Assistant Geologist, U. S. Geological Survey, 1895–1906, Geologist since 1906. At Stanford since 1892.

†Smith, Stanley Astredo, (123) Redwood 285R
Assistant Professor of French, (Box 176) Redwood-r

A. B., Stanford, 1903, A. M., 1905. Assistant in Romanic Languages, Stanford University, 1903–04, Instructor, 1904–07; Student, Universities of Paris and Madrid, 1906–07; Instructor in French and Italian, University of Washington, 1907–11; Student, Harvard University, 1911–13, Instructor in Romance Languages, 1912–13; Professor of Romance Languages, Reed College, 1913–14. At Stanford 1903–07, and since 1914.

Snell, Elizabeth Burritt (Mrs.), (1234) PA 508R
Appointment Secretary, 551 University-p

A. B., Stanford, 1908. At Stanford since 1916.

[†Snow, William Freeman,
Clinical Professor of Hygiene and Public Health,
Washington, D. C.]

A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1900. Student, Johns Hopkins Medical School, 1901–02; Secretary California State Board of Health, 1909–13. At Stanford since 1901.

†Snyder, John Otterbein, (123) PA 600R
Associate Professor of Zoology, 1345 Cowper

A. B., Stanford, 1897, A. M., 1899. Assistant U. S. Fish Commission, 1897, 1899, 1904, 1915, 1916; Naturalist on U. S. S. "Albatross" engaged in deep sea investigations, 1902, 1906; Expert Ichythyologist, U. S. National Museum, 1914; Fisheries Expert, Fish and Game Commission of California, since 1919. At Stanford since 1897.

†Somers, George Burbank, (123) Fillmore 296
Clinical Professor of Gynecology and Physician
Superintendent of Lane Hospital, 2662 Vallejo, SF-sf

A. B., Harvard, 1886; M. D., Cooper Medical College, 1888. Chief Surgeon, San Francisco Emergency Hospital, 1891–95; Adjunct to Chair of Gynecology, Cooper Medical College, 1889, Professor of Gynecology, 1901; Gynecologist to Lane Hospital, 1900–12. At Stanford since 1911.

†SPALDING, ALFRED BAKER, (123) Fillmore 826
Professor of Obstetrics and Gynecology, 2651 Green, SF-sf

A. B., Stanford, 1896; M. D., Columbia, 1900. House Surgeon, General Memorial Hospital, New York, 1900-01; Assistant Resident Physician, Sloane Maternity Hospital, New York, 1901–02; Instructor in Obstetrics, University of California, 1902–05, Assistant Professor, 1905–09, Professor, 1909–12. At Stanford since 1912.

†STANIFORD, WARREN PAUL, (13)
Instructor in Journalism, 707 Bryant

A. B., Stanford, 1916. At Stanford since 1919.

STANLEY, EDWARD JOHN, (1234) PA 544W
Teaching Specialist in Mechanic Arts, 269 Hawthorne-p

Machinist with Pacific Iron Works, San Francisco, 1879, Blacksmith, 1880, Draughtsman, 1881, Pattern Maker, 1883–86; Third Assistant Engineer, Steamer "Alabama," 1882; Foreman Pattern Maker, Union Iron Works, San Francisco, 1886–1901, 1906. At Stanford since 1901.

STARKS, CHLOE LESLEY (Mrs.), (123) PA 812M
Assistant Professor of Education (Graphic Art), 1115 Ramona-p

At Stanford since 1899.

†STARKS, EDWIN CHAPIN, (1234) PA 812M
Assistant Professor of Zoology, 1115 Ramona-p

Assistant in United States Bureau of Biological Survey, 1897–99; Curator of the Museum and Assistant Professor of Zoology, University of Washington, 1899–1900. At Stanford since 1900.

†STEBBINS, HORATIO WARD, (123) PA 316
Assistant Professor of Mechanical Engineering, 327 Addison-p

A. B., California, 1899; B. S., Massachusetts Institute of Technology, 1902. Assistant to Engineer of Tests, Southern Pacific Railroad Company, 1902–05; Engineer and Estimator, San Francisco Bridge Company, 1905–13. At Stanford since 1914.

†STEPHENSON, HENRY AUGUSTUS, (1234) Sutter 3560
Assistant Clinical Professor of Obstetrics and Gynecology, 516 Sutter, SF-sf

A. B., Randolph-Macon College, 1906; M. D., Johns Hopkins Medical School, 1910. Assistant Resident Obstetrician, Johns Hopkins Hospital, 1911–12, Resident Obstetrician, 1912–14; Assistant in Obstetrics, Johns Hopkins Medical School, 1911–12, Instructor, 1912–14. At Stanford since 1914.

STEVENS, BURT S., (123) (Medical Bldg., 1–4), Franklin 4345
Lecturer in Surgery, Franklin 3636, Bellevue Hotel

Ph. G., University of Buffalo, 1896; M. D., Northwestern University Medical School, 1908. Instructor in Surgery, Northwestern University Medical School, 1909–1912; Surgeon Wesley Memorial Hospital, Chicago, 1909–12; Surgeon, People's Hospital, Chicago, 1910–12; Instructor in Bacteriology and Chemistry, Illinois Training School, 1908–09; Lecturer in Bacteriology, Etiology, and Hygiene, Wesley and Mercy Training Schools, 1909–12; Surgical Chief, San Francisco Polyclinic, 1919–20. Captain, M. R. C., U. S. A., October to December, 1918.

†STEVENS, WILLIAM EMERSON, (1234) Douglas 1122
Lecturer on Urology, 210 Post, SF-sf

M. D., California, 1899. Chief of Genito-Urinary Department, Mount Zion Hospital and Mount Zion Clinics; Chief of Genito-Urinary Department and

Department of Urology in Women, San Francisco Polyclinic and Post Graduate School of Medicine; Genito-Urinary Surgeon, Bethlehem Shipbuilding Corporation (Ltd.) Hospital; Gynecological Urologist, San Francisco County Hospital.

STILLMAN, MINNA, (123) PA 1048
Document Librarian, 2 Alvarado

A. B., Stanford, 1903. At Stanford since 1912.

†STILLMAN, STANLEY, (1234) West 1034
Professor of Surgery, 2336 Broadway, SF-sf

M. D., Cooper Medical College, 1889. Adjunct Professor of Surgery, Cooper Medical College, 1895–98, Professor of Surgery, 1898–1912; Assistant Visiting Surgeon, City and County Hospital, San Francisco, 1891–99, Visiting Surgeon, 1899–1912; Chief Surgeon, Lane Hospital, 1895–1912; Lieutenant Commander, U. S. N. R. F., 1917–19. At Stanford since 1909.

STOLTENBERG, CLARA S., (1) PA 1411
Associate Professor of Physiology, 9 Salvatierra

A. B., Stanford, 1896, A. M., 1897. At Stanford since 1896.

†STUART, DUANE REED, (4)
Acting Professor of Latin (Summer Quarter),

A. B., Michigan, 1896, Ph. D., 1901. Student, American School of Archaeology, Athens, 1898–99; Professor of Latin, Michigan State Normal College, 1899–1900; Instructor in Latin, University of Michigan, 1900–01, in Greek, 1902–04, Assistant Professor, 1905; Preceptor in Classics, Princeton University, 1905–07, Professor, since 1907.

†STUART, HENRY WALDGRAVE, (12) PA 1069
Professor of Philosophy, 8 Alvarado

Ph. B., California, 1893; Ph. D., Chicago, 1900. Teacher, Hollister (Cal.) H. S., 1893–94; Fellow in Political Economy, University of Chicago, 1894–96; Instructor (pro tem.) in Economics and Psychology, Washington University, St. Louis, 1896–97; Teacher, Central School, Oakland (Cal.), 1897–98; Principal, Woodland (Cal.) H. S., 1898–99; Fellow in Philosophy, University of Chicago, 1899–1900; Instructor in Economics and History, Ripon College, 1900–01; Instructor in Philosophy, State University of Iowa, 1901–04; Acting Professor of Philosophy, Lake Forest College, 1904–05, Assistant Professor, 1905–07. At Stanford since 1907.

SUTLIFF, HELEN BINNINGER, (123) PA 876
Chief Cataloguer, Library, 19 Salvatierra

A. B., Kansas, 1890. Head Cataloguer, University of Kansas Library, 1891–1905; Cataloguer in Columbia University Library, Summer, 1901. At Stanford since 1906.

†SWAIN, ROBERT ECKLES, (134) PA 247
Professor of Chemistry, 638 Channing-p

A. B., Stanford, 1899; M. S., Yale, 1901, Ph. D., 1904. Student, Universities of Strassburg and Heidelberg, 1901–02, Yale University, 1909–10. At Stanford since 1898.

TABER, STEPHEN,
Acting Associate Professor of Geology (summer quarter),

†TATLOCK, JOHN S. P., (124) PA 1061M
Professor of English Philology, 5 Santa Ynez

A. B., Harvard, 1896, A. M., 1897, Ph. D., 1903. Student, Universities of Michigan, 1899–1901, Freiburg im Breisgau, 1904; Instructor in English, Uni-

versity of Michigan, 1897–1901, 1903–05, Assistant Professor, 1905–07, Junior Professor, 1907–12, Professor, 1912–15; Professor of English, University of Chicago, Summer Quarter, 1909, Dartmouth College, Summer Session, 1914. At Stanford since 1915.

†TERMAN, LEWIS MADISON, (124) PA 1178
Professor of Education, 9 Dolores

A. B., Indiana, 1902, A. M., 1903; Ph. D., Clark University, 1905. Fellow in Psychology and Education, Clark University, 1903–05; Principal of High School, San Bernardino (Cal.), 1905–06; Head of Department of Child Study and Pedagogy, Los Angeles State Normal School, 1906–10; Instructor in Education, Indiana University, Summer Session, 1909, New York University, Summer Session, 1916, Columbia University, Summer Session, 1917; Major, Division of Psychology, Surgeon General's Office, Washington (D. C.), 1918. At Stanford since 1910.

†TOLMAN, CYRUS FISHER, JR., (234) PA 1052R
Professor of Economic Geology, 6 Alvarado

B. S., Chicago, 1896. Fellow in Geology, University of Chicago, 1897–98; Consulting Economic Geologist since 1898; Professor of Geology, University of Arizona, 1905–06, Professor of Geology and Mining, 1906–12; Territorial Geologist of Arizona, 1910–12. At Stanford since 1912.

TOWNE, EDWARD BANCROFT, (1234) West 177
Instructor in Surgery, 2605 California, SF-sf

A. B., Harvard, 1906, M. D., 1913. House Officer and Assistant Resident Surgeon, Peter Bent Brigham Hospital, Boston, 1913–15; Honorary Medical Officer, Royal Army Medical Corps, France, 1915–16; Voluntary Assistant, Mayo Clinic, 1916–17; Assistant Resident Surgeon, Brigham Hospital, and Assistant in Surgery, Harvard Medical School, 1917; Lieutenant, Captain, and Major, Medical Corps, U. S. A., A. E. F., 1917–19. At Stanford since 1919.

†TOWNLEY, SIDNEY DEAN, (12) PA 1016
Professor of Applied Mathematics, 33 Salvatierra

B. S., Wisconsin, 1890, M. S., 1892; D. Sc., Michigan, 1897. Fellow in Astronomy, University of Wisconsin, 1890–91, Assistant in Astronomy and Mathematics, 1891–92; Hearst Fellow in Astronomy, University of California (Lick Observatory), 1892–93; Instructor in Astronomy, University of Michigan, 1893–95, 1896–98; Student, Universities of Berlin and Munich, 1895–96; Instructor in Practical Astronomy, University of California, 1898–1903, Lecturer in Astronomy, 1904–07; Astronomer in charge of International Latitude Observatory, 1903–07. At Stanford since 1907.

TRACE, GERTRUDE MAY, (123)
Instructor in Psychology, 730 University, San Jose,-sj

A. B., Stanford, 1914. Student, University of Chicago, 1914–15, Stanford University, 1914, 1915, 1916–17. At Stanford since 1917.

†TREAT, PAYSON JACKSON, (123) PA 1128
Professor of History, 8 Dolores

A. B., Wesleyan, 1900; A. M., Columbia, 1903; Ph. D., Stanford, 1910. Instructor in History, Barnard School, New York City, 1900–03; Graduate Student, Stanford University, 1903–05; Research Student in Far East, 1906–07; Instructor in Government, Harvard University, 1908–09; Lecturer in Political Science, University of California, Second Semester, 1915–16. At Stanford since 1905.

TROTTER, REGINALD GEORGE, (123) PA 1006
Assistant Professor of English History, Cooksey Lane

A. B., Yale, 1911; A. M., Harvard, 1915. History Master, Thacher School, Ojai, California, 1911–14; Parker Traveling Fellow in Canadian History,

Harvard University, 1916–17; Austin Teaching Fellow in History, 1917–18, Instructor in History, 1918–19; Lecturer in European History, Boston University, April–June, 1918; Lecturer in Charge of War Issues Course, Northeastern College, Fall Term, 1918; Eric Dennis Lecturer in Political Science, Dalhousie University, March, 1919. At Stanford since 1919.

TRUE, HELEN ELLA, (123) PA 538R
Secretary to the President, 682 University-p

A. B., Mt. Holyoke, 1905. At Stanford since 1914.

†TUPPER, ROLAND BEATTY, (123) Fillmore 877
Assistant Clinical Professor in Medicine, 2720 Pierce, SF-sf

M. D., Cooper Medical College, 1910. Assistant Visiting Physician, St. Luke's Hospital, since 1912; Assistant in Pediatrics, Cooper Medical College, 1912; Assistant Visiting Physician, San Francisco Hospital, since 1912; on Diagnostic Section, St. Luke's Hospital Clinical Club, since 1915; with U. S. N., Base Hospital No. 2, 1918. At Stanford since 1912.

†VERNIER, CHESTER GARFIELD, (1234) PA 254
Professor of Law, 951 Bryant-p

A. B., Butler College, 1903; J. D., Chicago, 1907. Graduate Scholar, University of Chicago, 1904–05; Instructor in Law, Indiana University, 1907–08; Professor of Law, University of Nebraska, 1908–09; Indiana University, 1909–11, University of Illinois, 1911–16; Lecturer in Law, University of Chicago, Summer Quarter, 1911, 1912, University of Michigan, Summer Session, 1914. At Stanford since 1916.

DE VRIES, LOUIS PETER, (123)
Instructor in Romanic Languages, 603 Waverley

A. M., Wisconsin, 1911, Ph. D., 1913. Student, University of Leyden, 1909; Assistant and Teaching Fellow in Romance Languages, University of Wisconsin, 1910–12. At Stanford since 1913.

WARREN, BERTHA HENZEL (Mrs.), (34) West 118
Secretary to Dean of Medical School, 2294 Bush, SF-sf

A. B., Stanford, 1906. At Stanford since 1918.

†WELTY, CULLEN FRANCIS, (123) Pacific 1874
Lecturer in Otology, Rhinology, and Laryngology,
18 Presidio Terrace, SF-sf

M. D., Pennsylvania, 1890. Volunteer Assistant, Ear Clinic, University of Vienna, and Private Assistant Docent Doctor Hajek, Vienna, 1901–03; Ear, Nose, and Throat Surgeon, San Francisco Polyclinic and City and County Hospital, since 1903.

†WEST, VICTOR J., (134) PA 291J
Professor of Political Science, 376 Addison-p

Ph. B., Chicago, 1905. Instructor in English and Civics, Bradley Polytechnic Institute, 1905–06; Fellow in Political Science, University of Chicago, 1908–10, Assistant in Political Science, 1910; Instructor in Politics, Northwestern University, 1910–13; Assistant Chief of Service, Illinois Progressive Service Board, 1913; Instructor in Political Science, University of California, Summer Session, 1915; Special Investigator, U. S. Bureau of Efficiency, 1918. At Stanford since 1913.

†WEYMOUTH, FRANK WALTER, (12)
Assistant Professor of Physiology, 3 Salvatierra

A. B., Stanford, 1909, A. M., 1911. Assistant in Physiology, Johns Hopkins University, 1912–13. At Stanford since 1910.

†WHEELER, RAYMOND HOLDER, (4)
Lecturer in Psychology (Summer Quarter), Kingscote

A. B., Clark College, 1912; A. M., Clark University, 1913, Ph. D., 1915; Scholar and Fellow in Experimental Psychology, Clark University, 1912–15; Professor of Psychology, University of Oregon.

†WHITAKER, ALBERT CONSER, (123) PA 1081J
Professor of Economics, 9 Alvarado

A. B., Stanford, 1899; Ph. D., Columbia, 1904. Scholar in Economics, Columbia University, 1899–1900, Fellow, 1900–01; Student, University of Berlin, 1901; Lecturer in Economics and Social Science, Columbia University, 1906–07; Lecturer in Economics, University of California, Summer Sessions, 1906, 1911; Acting Professor of Economics, University of Chicago, second half of 1911–12 and 1912–13. At Stanford since 1902.

†WHITTIER, CLARKE BUTLER, (1234) Menlo Park 1243R
Professor of Law Menlo Heights

A. B., Stanford, 1893; LL. B., Harvard, 1896. Attorney at Law, Los Angeles, 1895–96; Student, Stanford University, 1896–97, Instructor in Law, 1897–99, Assistant Professor, 1899–1900, Associate Professor, 1900–02; Professor of Law, University of Chicago, 1902–14. At Stanford 1897–1902, and since 1915.

†WILBUR, RAY LYMAN, (1234) PA 46
President of the University, Lagunita Knoll

A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1899; LL. D., California, 1919, Arizona, 1919. Assistant in Physiology, Stanford University, 1894–96, Instructor, 1896–97, Assistant Professor, 1900–03; Lecturer and Demonstrator in Physiology, Cooper Medical College, 1899–1900, Professor of Medicine and Dean of the Stanford Medical School, 1909–16. At Stanford 1894–97, 1900–03, and since 1909.

†WILDMAN, MURRAY SHIPLEY, (134) PA 1179
Professor of Economics, 37 Salvatierra

A. B., Earlham, 1893; Ph. D., Chicago, 1904. Professor of History and Economics, Central College (Mo.), 1904–05; Instructor in Economics, University of Missouri, 1905–06, Assistant Professor, 1906–08; Acting Assistant Professor, University of Chicago, Summer Quarter, 1909; Assistant Professor of Economics and Commerce, Northwestern University, 1909–11, Professor, 1911–12. At Stanford since 1912.

†WILLIAMS, J. HAROLD, (4)
Instructor in Education (Summer Quarter), Whittier

A. B., Stanford, 1913, A. M., 1914, Ph. D., 1916. Director of Research, Whittier State School, since 1915.

†WILLIS, BAILEY, (23) PA 1118
Professor of Geology, 5 Lasuen

E. M., Columbia School of Mines, 1878, C. E., 1879; Hon. Ph. D., University of Berlin, 1910. Special Expert, Iron Ores, Tenth Census, 1879–81; Geologist, Northern Transcontinental Survey, exploration for Northern Pacific and Allied Companies, 1881–84; Geologist, United States Geological Survey, in charge Appalachian Division, New York to Alabama, Cascade Range and Puget Sound Division, Washington, and Editor Geologic Atlas of the United States, 1884–1915; Assistant to Director, United States Geological Survey, 1897–1902; Geologist in charge of Division of Areal and Stratigraphic Geology, 1900–06; Geologist engaged in Geological explorations in China under auspices of Carnegie Institution, 1903–04; Lecturer on Geology, Johns Hopkins University, 1895–1902, University of Chicago, 1909; Consulting Geologist to Minister of Public Works, Argentina, 1911–14; member, National Academy of Sciences, 1920. At Stanford since 1915.

†WING, CHARLES BENJAMIN, (123) PA 445W
Professor of Structural Engineering, 345 Lincoln

C. E., Cornell, 1886. Fellow in Civil Engineering, Cornell University, 1886–87, Instructor, 1887–90, Assistant Professor,. 1890–91; Engineer, Pompton (N. J.) Powder Co., 1887, Phoenix Powder Co., Farmingdale (N. J.), 1888; Assistant Engineer, Berlin (Conn.) Iron Bridge Co., 1889–90; Professor of Bridge and Hydraulic Engineering, University of Wisconsin, 1891–92. At Stanford since 1892.

†WOLFSOHN, JULIAN MAST, (123) Fillmore 2532
Assistant Clinical Professor of Medicine (Neurology), 2961 Pacific, SF-sf

A. B., University of California, 1905, M. S., 1907; M. D., Johns Hopkins University Medical School, 1911. Research Assistant, Herzstein Laboratory, University of California, 1906–07; Medical House Officer, Johns Hopkins Hospital, 1911–12; Captain, M. R. C., U. S. A., 1917–19. At Stanford since 1913.

†WOOD, WILL CHRISTOPHER, (4)
Lecturer in Education (Summer Quarter), Sacramento

A. M. (pro merito), University of Southern California, 1919. Student, Stanford University, 1900–01, University of California, 1906–09, University of Michigan, Summer Session, 1913; Principal of Schools, Fairfield (Cal.), 1901–06; Principal of Wilson School, Alameda, 1906–09; Superintendent of City Schools, Alameda, 1909–14; State Commissioner of Secondary Schools, 1914–19; State Superintendent of Public Instruction of California, since 1919; Instructor in Secondary Education, Teachers' College, Columbia University, Summer Session, 1917; President of the National Council of State Departments of Education, 1919–20.

[†WOOLSEY, CHESTER HOWARD, Fillmore 941
Clinical Instructor in Surgery, 2200 Sacramento, SF-sf]

B. S., California, 1895, M. D., 1901. Assistant to Chair of Clinical Medicine, University of California, 1902–06; State Bacteriologist, California, 1903–04; Assistant to Chair of Genito-Urinary Surgery, Cooper Medical College, 1911–12; Surgeon in Reserve, U. S. Public Health Service. At Stanford since 1912.

†YERINGTON, HENRY HERBERT, (1234) Fillmore 476
Assistant Professor of Medicine (Pediatrics), 2989 Jackson, SF-sf

M. D., Columbia University, 1908. Student, Stanford University, 1900–04, Bellevue Hospital, New York, 1909–10; House Physician, Pediatric Service, Bellevue Hospital, 1909–10; Instructor in Pediatrics, Cooper Medical College, 1910–11; Visiting Pediatrician, San Francisco Hospital, Assistant Visiting Staff, Children's Hospital, San Francisco. At Stanford since 1913.

YOUNG, STEWART WOODFORD, (123)
Professor of Physical Chemistry, Menlo Heights

B. S., Cornell, 1890. Assistant in Chemistry, Cornell University, 1890–91; Instructor in Chemistry, Swarthmore College, 1891–93. At Stanford since 1893.

†ZOBEL, ALFRED JACOB, (123) Pacific 119
Lecturer on Proctology, 352 Lake, SF-sf

M. D., Cooper Medical College, 1898. Assistant Prosector, Anatomy Department, Cooper Medical Department, 1899–1900, Assistant Medical Clinic, 1899; Assistant Medical Clinic, San Francisco Polyclinic, 1901–03, Associate Professor of Medicine, 1904–05, Associate Professor of Proctology, 1906–09, Chief of Department of Rectal Surgery, since 1909; Consulting Rectal Surgeon, Mt. Zion Hospital, 1917; Visiting Rectal Surgeon, San Francisco Hospital, since 1908. At Stanford since 1918.

ASSISTANTS IN INSTRUCTION

†Arnold, Clement Harisse, Medicine, (123) 3829 Jackson, SF-sf
A. B., Stanford, 1910; M. D., Johns Hopkins, 1918.

Auffinger, George Henry, Jr., Economics, (23) 2 Salvatierra
A. B., Oberlin, 1919.

Barber, William Richmond, Chemistry, (2) 227 Encina
A. B., Stanford, 1920.

Binkley, Tholow, Bacteriology, (23) 334 Lincoln-p
A. B., Stanford, 1910.

Campbell, John Lockhart, Clinic Dentist, (123) 1820 62d, Berkeley-c

Chase, Jessie M., English, (1) 100 Roble
A. B., Stanford, 1919.

Clay, Harry E., Obstetrics and Gynecology, (123) 2710 Baker, SF-sf
M. D., Rush Medical College, 1904. House Sugeon, Passavant Memorial Hospital, 1904–05; Assistant Professor of Surgery, Willamette University (Ore.), 1911–12; Chair of Gynecology, Willamette University, 1912–15; Member, Oregon State Board of Health, 1916, until entry into service; Captain, U. S. A., 1917, Major, 1918.

Crobaugh, Mervyn, Economics, (123) 66 Stockton, San Jose-sj
A. B., Stanford, 1919.

Dudley, Hubert W., Medicine, (123) 231 Bay View, San Rafael-sr
M. D., Jefferson Medical College, 1888; M. D., Central College of Physicians and Surgeons, 1899. House Surgeon, New York Aural and Ophthalmic Hospital, 1900–01; Clinical Assistant and Special Student, Massachusetts General Hospital, 1910–11.

Galbraith, Francis B., Obstetrics and Gynecology, (1)
1904 Baker, SF-sf

Gebert, Otto Carl, Romanic Languages, (123)
234 Amherst, College Terrace
University of Berlin; Ph. D., Stanford, 1920.

†Glaeser, W. Edward, Medicine, (123) 3039 24th st., SF-sf
M. D., Hahnemann (U. C.), 1918. Interne, San Francicso Hospital, 1917–18, Resident Physician, Tuberculosis Department, since 1918.

Gottbrath, Norbert J., Medicine (Neurology), (123)
1145 Flood Bldg., SF-sf
B. S., St. Mary's Institute, Dayton, O., 1898; M. D., Georgetown University, 1912. Clinical Assistant, Neurological Institute, New York City, 1914–15; Attending Physician and Instructor, Vanderbilt Clinic, 1914–16.

Hackley, Sadie Gilmore (Mrs.), Mathematics, (2) 602 Cowper-p
A. B., Stanford, 1907.

Hall, Helene Marie, Romanic Languages, (3) Sigma Kappa
A. B., Stanford, 1920.

Hampton, Harold Clark, Botany, (234) 319 Encina
A. B., Stanford, 1920.

Howe, Charles Dudgeon, Electrical Engineering, (3) 347 Alma-p
A. B., Stanford, 1919.

Jones, Grace Elizabeth, Romanic Languages, (123) 3 Santa Inez
A. B., Stanford, 1919.

Kinslow, Frank A., Medicine, (23) 2250 Van Ness, SF-sf

M. D., Cooper Medical College, 1906. Interne, St. Joseph's Hospital, 1906–07; First Lieutenant, M. C., U. S. A., 1918–19.

†Kirk, Josiah H., Surgery (Ear, Nose, Throat), (123) 251 Embarcadero-p

M. D., Cooper Medical College, 1906.

Kroll, Frederick Walter, Medicine, (23) 1238 Washington, SF-sf

M. D., Cooper Medical College, 1912. Assistant, Obstetrics and Gynecology, 1914, Instructor, Materia Medica, Lane Hospital, 1913–14; Captain, M. R. C., U. S. A., 1916–18.

†Lanz, Henry, Slavic, (1234) 640 Waverley-p

Leach, Charles Nelson, Medicine (Dermatology), San Francisco

A. B., Stanford, 1909, M. D., 1913.

Lee, Ethel, Romanic Languages, (123) 970 University-p

A. B., Stanford, 1919.

†von der Lieth, Harold Otto, Surgery, (123) 870 Market, SF-sf

Ph. G., California, 1893; M. D., Cooper Medical College, 1897. Interne, German Hospital, San Francisco, 1898; Assistant Police Surgeon, San Francisco, 1898–1901; Volunteer Assistant, Berlin and Vienna, 1902–03; Instructor Operative Gynecology, Cooper Medical College, 1904–06; in Charge Out-Patient Department, German Hospital, 1906–13; Graduate Work, Vienna and Berlin, 1914.

Michelson, Lewis, Obstetrics and Gynecology, (123) 1562 Vallejo, SF-sf

M. D., Cooper Medical College, 1907. Student, Vienna, 1910–11; Special Worker, Brady Urological Institute, Johns Hopkins University, 1916–17; Director of Bureau of Social Hygiene, California State Board of Health, since 1918. At Stanford since 1917.

Moore, Harold Staats, Surgery, (123) 516 Sutter, SF-sf

M. D., Medical College of Indiana, Purdue University, 1898. Assistant Surgeon, U. S. A., 1910–11; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910.

Overacker, Louise, Political Science, (23) 764 Channing-p

A. B., Stanford, 1915, A. M., 1917.

Pauly, Irene Margaret, Physics,

A. B., Stanford, 1918, A. M., 1919.

Pehrson, Elmer Walter, Geology, (1) Encina

A. B., Stanford, 1918, Engineer, 1920.

Pruett, Harry Jeroam, Medicine (Skin Clinic), (23) Hotel Normandie, SF-sf

A. B., Stanford, 1912, M. D., 1917. Interne, San Francisco Hospital, 1916–18; Captain, M. C., U. S. A., 1918–19.

†Raynes, Francis N., Surgery, (123) 240 Stockton, SF-sf

M. D., Cooper Medical College, 1900.

Reeng, Joseph D., Surgery (Genito-Urinary), (123) 760 Market, SF-sf

M. D., Cooper Medical College, 1909.

Rethwilm, Lorruli Anna, Surgery (Ophthalmology), (123)

A. B., Washington University, 1913; M. D., Stanford, 1917.

Sappington, Clarence Olds, Women's Clinic, (23) 411 O'Farrell, SF-sf

A. B., Whitman College, 1911; M. D., Stanford, 1918. Interne, San Francisco Hospital, 1918; Assistant Resident Physician, Sacramento County Hospital, 1918–19; Assistant Resident Physician, San Quentin State Prison, 1919.

†Smith, Walter Edward, Medicine, (12) 1142 Railroad ave., SF-sf
M. D., University of Toledo (Ohio), 1912.

Spiro, Harry, Medicine, (123) 516 Sutter, SF-sf
Ph. G., California, 1893; M. D., Cooper Medical College, 1904. Instructor in Pharmacology, Cooper Medical College, 1905–07.

Stauf, Ida, Romanic Languages, (123) 515 Lytton-p
A. B., Stanford, 1910, A. M., 1912.

†Strickler, John Philip, (4)
Surgery, Chancellor Hotel
A. B., Stanford, 1913, M. D., 1916. First Lieutenant, M. C., U. S. A., 1918–19.

Templeton, John Wesley, Applied Mathematics, (23) 532 University-p
A. B., Stanford, 1917.

†Tresidder, Donald Bertrand, Anatomy, (123) 603 Waverley-p
A. B., Stanford, 1919.

Walsh, Dorothy Leeds, Romanic Languages, (3) Kappa Alpha Theta
A. B., Stanford, 1919.

Wheeler, Clayton, Obstetrics and Gynecology, (123)
2321 Sacramento, SF-sf

Wolters, Sophia Juliane, Germanic Languages, (1234) Menlo Park-mp
A. B. Stanford, 1902.

Woodbridge, Elizabeth Dana, Romanic Languages, (23) 7 Alvarado
A. B., Vassar, 1907; A. M., Stanford, 1918.

Wright, Anna Louise, Mathematics, (12) 421 Oberlin, Mayfield-m
A. B., Stanford, 1896, A. M., 1897.

†Wright, Frederick Leven, Surgery, (123) 1487 Sacramento, SF-sf

Zeitlin, Marion Albert, Romanic Languages, (123) 1 Salvatierra
A. B., Stanford, 1918, A. M., 1920.

LIBRARY STAFF

Clark, George Thomas, Librarian.
Hadden, Elizabeth, Chief of Order Department.
Hays, Alice Newman, Reference Librarian.
Ophüls, Louise, Medical Librarian, Lane Medical Library.
†Park, Charles V., Assistant Librarian.
Stillman, Minna, Document Librarian.
Sutliff, Helen Binninger, Chief Cataloguer.

Almond, Nina, Cataloguer, (1234) 2 Lasuen
Brown, M. Ethel, Assistant, Loan Desk, (34) Sigma Kappa
Craig, Florence M., Cataloguer, (1234) Los Altos
Crutcher, Ruth Cary, Secretary, (1234) 412 Cowper-p

Dunlap, David Porter, Assistant, Loan Desk, (1234) 115 Encina
A. B., Stanford, 1916.
Dyer, Thomas Lafayette, Law Librarian, (1234) 436 Lytton-p
A. B., Stanford, 1914.
Flügel, Hildegarde, Cataloguer, (2) 1153 Cowper-p
Gale, Helen Avery, Reference Department, (1234) 940 Waverley-p
Green, Gladys, Assistant, Serial Department, (1) 642 Webster-p
Jertberg, Gilbert, Assistant, Loan Desk, (123) El Camino
Katz, Louise W., Cataloguer, Lane Medical, (123)
2526 Buena Vista, Berkeley-b
Meers, Edith G., Assistant, Serial Department, (123) 36 Lasuen
Potter, Margaret L., Cataloguer, (123) 1 Salvatierra
Ramsey, Anna, Assistant, Serial Department, (34) 20 Lasuen
Secker, Pearl, Cataloguer, (123) 437 Kipling-p
A. B., Stanford, 1918.
Smith, Mildred, Order Department, (1234) 940 Scott-p
Stillson, Grace Elizabeth, Typist, (1234) 451 Ruthven-p
A. B., Stanford, 1915.
Todd, Hannah Lilian, Bindery, (1234) 336 Everett-p
Wickes, Florence L., Cataloguer, Lane Medical, (1234)
517 Webster, SF-sf
Woods, Lois May, Cataloguer, Lane Medical, (12)
1334 Spruce, Berkeley-b

TECHNICAL ASSISTANTS

Banham, F. D., Mechanician, Mechanician Shop, (1234) 425 Waverley-p
Barrett, Frank, Anatomy, (1234) 642 High-p
Bartlett, Emily, Anatomy, (1234) Madroño
Bell, May Knight (Mrs.), Secretary, Entomology, (1234) 532 Homer-p
Boulware, Edna, Secretary, Chemistry, (1234) 170 Bryant-p
Bowers, Fannie, Secretary, History, (12)
†Bruce, Walter Johnson, Chemistry, (1234) 327 Webster-p
Curtis, Wilmetta, Secretary, Mining, (3)
Ferris, Roxana Stinchfield (Mrs.), Botany, (1234) 207 Hawthorne-p
Hollands, Sarah Truair, Secretary, Roble Gymnasium, (234)
330 Embarcadero-p
A. B., Mt. Holyoke, 1904.
Huskey, Anne K. (Mrs.), Secretary, Civil Engineering, (1234)
Cupertino
McDermoth, Nan A. (Mrs.), Secretary, Publicity, (234) 767Everett-p
McInnis, Peter, Custodian, Encina Gymnasium, (1234) Mayfield-m

McKendry, Marion, Secretary, Law, (1234) Kingscote
Murray, Katherine, Secretary, Military Training, (234) 1011 Fulton
Oldroyd, Ida S. (Mrs.), Curator, Geology, (123) 10 Alvarado
†Oldroyd, Thomas S., Assistant Curator, Geology, (123) 10 Alvarado
Percel, John, Physics, (2)
Putnam, Dorothy, Librarian and Secretary, School of Education, (1234) 705 Cowper
A. B., Stanford, 1916.
†Scott, Thomas Benjamin, Storekeeper, Chemistry, (1234) Mayfield-m
Snow, Frank Jotham, Chemistry, (234) 321 Lytton-p
Stuart, Burton, Physics, (34)
Tyler, Rose T. (Mrs.), History, (34)
†Uhlman, Walter, Engineer, Mechanical Engineering, (1234) 230 Emerson-p
Warren, Bertha Henzel (Mrs.), Secretary, Mining. (2) 1 Alvarado
A. B., Stanford, 1906.
Whitmire, Ethel D., Secretary, Roble Gymnasium, (1) 27 Alvarado

ASSISTANTS IN ADMINISTRATION

OFFICE OF THE PRESIDENT

Boulware, Alice, Assistant to Mimeographer, (123) 170 Bryant
McKay Gladys B., Stenographer, Appt. Sec'y's Office, (1234) 251 Emerson-p
Narvestad, Olga, Secretary to Dean of Men, (1234) Kingscote
A. B., Stanford, 1918.
Perry, Frances, Secretary to Dean of Women, (1234) 1 Salvatierra
A. B., Radcliffe, 1911.
Ramsey, Agnes Craig (Mrs.), Mimeographer, (1234) 20 Lasuen

OFFICE OF THE REGISTRAR

Bentley, Ruth, (234) 635 Homer-p
Crellin, Ruth, (1234) 1 Salvatierra
A. B., Stanford, 1913.
Garsed, Gwendolen Harriet, (1234) 637 Gilman-p
A. B., Stanford, 1918.
*Howe, Mollie Margaret, (1)
Nagel, Laura Ingeborg, (1234) Los Altos-la
A. B., Stanford, 1904, A. M., 1905.

OFFICE OF THE COMPTROLLER

†Allen, Everett A., Foreman Plumber, (1234) Stanford Park

* Deceased, December, 1919.

Barker, Nellie H. (Mrs.), Stenographer, (34) 633 Hamilton-p
Bell, Georgia, Cashier, (1234) 426 Ramona-p
†Borsdamm, John, Foreman of Bindery, (1234) 861 Channing-p
Church, Vivienne, Clerk, University Press, (1234) Los Altos-la
Cody, M. J., Foreman Electrician, (12) Palo Alto
†Erwin, E. S., Accountant, (1234) 457 Webster-p
†Fisher, E. T., Head Bookkeeper, (34) 801 Waverley-p
†Frehe, Fred W., Foreman of Outside Properties, (1234) Stanford University
Funke, Philip K., Purchasing Agent, (123) 2124 Central Ave., Alameda
A. B., Stanford, 1905.
Gardiner, Gertrude, Matron, Roble Hall, (1234) Roble
Gilligan, N. G., Bookkeeper, (1) Palo Alto Hotel
Griffin, W. W., Draftsman, (1) 808 Waverley-p
†Hackenburger, William, Yard Office, (1234) Stanford University
Hall, Elsie, Private Exchange Operator, (4) 645 Lytton-p
Hampton, Beda (Mrs.), University Press, (123) 313 Kipling-p
Henderson, Jas. Ralph, Custodian, Encina and Sequoia Halls, (234)
†Hewston, J. Ellis, Superintendent, (1) Campus
Ingraham, Eleanor R., Proofreader, (1234) Los Altos-la
Irvin, V. P., Head Bookkeeper, (2) 801 Waverley
John, Gertrude, Clerk, (1234) 904 Cowper-p
Keefer, Chauncey T., University Engineer, (34)
Landgren, Geneva, Telephone Operator, (12) Palo Alto
Le Croix, Margaret, Clerk, (1) 435 Hamilton-p
†Lindner, Virgil F., Foreman, Composing Room, (1234) San Jose
Matheson, Margaret M., Bookkeeper, (1234) 618 Channing-p
†McDonnell, J. W., Foreman Electrician, (34) 618 Fulton-p
McGrath, Marion.
†Merwin, H. A., Clerk, (3) Box 212, Palo Alto
Moloney, David, Farm Foreman, (1) Campus
Murray, Margaret, Secretary to the Comptroller, (1234) 1011 Fulton
†Nyquist, I. A., Foreman of Grounds, (3) 341 Hermann-SF-sf
Price, Vernon, Secretary to Purchasing Agent, (1234) 602 Webster-p
A. B., Stanford, 1918.
Ryan, J. T., Bookkeeper, (4) Palo Alto Hotel-p
†Schilling, John C., Foreman Carpenter, (1234) 730 Bryant-p
†Slack, Ellard L., Storekeeper, Lane Hospital, (1234) Larkspur
†Smith, C. B., Foreman Pressroom, (1234) Palo Alto
†Smith, George B., Foreman Painter, (1234) 253 Homer-p
Smith, Gladys B. (Mrs.), Bookkeeper, (4) 636 Gilman-p

Stanley, E. C., Clerk, Encina Hall, (1) Encina
Thornton, Mary, Cashier, 427 Hawthorne-p
†Waterman, Edward H., Chief Engineer, (1234) 567 Lytton-p
Widman, Fred, Storekeeper, (1234) Stanford Unniversity
Woods, Anne,, Private Exchange Operator, (3) 1128 High-p

OFFICE OF THE TREASURER

Blodgett, David P., Chief Clerk, (1234) 1445 Oak, Oakland-o
Frost, Maude L., Stenographer, (1234) 701 Post, San Francisco-sf

ORGANIZATION

Foundation

STANFORD UNIVERSITY was established under an Act of the Legislature, approved March 9, 1885, entitled "An Act to advance learning, the arts and sciences, and to promote the public welfare by providing for the conveyance, holding, and protection of property, and the creation of trusts for the founding, endowment, erection, and maintenance within this State of universities, colleges, schools, seminaries of learning, mechanical institutes, museums, and galleries of art." The Founding Grant, executed November 11, 1885, was made public at a meeting of the Board of Trustees, held in San Francisco, November 14, 1885. The cornerstone of the quadrangle was laid May 14, 1887, and the institution opened to students October 1, 1891.

Nature, Object, and Purposes of the University

"We, Leland Stanford and Jane Lathrop Stanford, husband and wife, grantors, desiring to promote the public welfare by founding, endowing, and having maintained upon our estate known as the Palo Alto Farm, and situated in the Counties of San Mateo and Santa Clara, State of California, United States of America, a university for both sexes, with the colleges, schools, seminaries of learning, mechanical institutes, museums, galleries of art, and all other things necessary and appropriate to a university of high degree, to that end, and for that purpose, do hereby grant," etc.

"And that the trust hereby created may be executed according to the wishes of the grantors and each of them, they do hereby designate the Nature, Object, and Purposes of the Institution hereby founded, to be:

"Its nature, that of a University, with such seminaries of learning as shall make it of the highest grade, including mechanical institutes, museums, galleries of art, laboratories, and conservatories, together with all things necessary for the study of agriculture in all its branches, and for mechanical training, and the studies and exercises directed to the cultivation and enlargement of the mind;

"Its object, to qualify students for personal success and direct usefulness in life;

"And its purpose, to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence for the great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness."

Name of the University

"Since the idea of establishing an institution of this kind for the benefit of mankind came directly and largely from our son and only child, Leland, and in the belief that had he been spared to advise as to the disposition of our estate, he would have desired the devotion of a large portion thereof to this purpose, we will that for all time to come the institution hereby founded shall bear his name, and shall be known as The Leland Stanford Junior University."

Management and Control of the University

The general management and control of the institution is vested in a Board of Trustees originally numbering twenty-four, and chosen for life. By the Amending Act of May 31, 1899, the number of trustees is reduced to fifteen, with future elections for a term of ten years. The Board of Trustees fills all vacancies.

Powers and Duties of the Trustees

"The Trustees shall have power and it shall be their duty:

"To appoint a President of the University, who shall not be one of their number, and to remove him at will.

"To fix the salaries of the President, Professors, and Teachers, and to fix them at such rates as will secure to the University the services of men of the very highest attainments.

"To establish and maintain at such University an educational system which will, if followed, fit the graduate for some useful pursuit, and to this end to cause the pupils, as early as may be, to declare the particular calling which in life they may desire to pursue. . . .

"To prohibit sectarian instruction, but to have taught in the University the immortality of the soul, the existence of an all-wise and benevolent Creator, and that obedience to His laws is the highest duty of man.

"To have taught in the University the right and advantages of association and coöperation.

"To afford equal facilities and give equal advantages in the University to both sexes.

"The Board of Trustees shall annually report all their proceedings to the person who for the time being shall fill the office of Governor of the State of California, and shall accompany such report with a full account of their financial operations for the preceding year, and with a statement of the financial affairs of the institution."

Powers and Duties of the President

"It shall be the duty of the Trustees to give to the President of the University the following powers:

"To prescribe the duties of the professors and teachers; to remove professors and teachers at will; to prescribe and enforce the course of study and the mode and manner of teaching; such other powers as will enable him to control the educational part of the University to such an extent that he may justly be held responsible for the course of study therein and for the good conduct and capacity of the professors and teachers."

Amendment to the Founding Grant

A clause in the Founding Grant reserved to the grantors the right to alter, amend, or modify the terms and conditions of the grant in important particulars. Under this provision amendments were made by Mrs. Stanford June 1, 1897; May 31, 1899; March 28, 1902; October 3, 1902; June 1, 1903. These amendments were concerned mainly with matters of detail, but provided also "that the number of women attending the University as students shall at no time ever exceed five hundred."

An Amendment to the Constitution of the State of California, adopted November 6, 1900, "permitted, approved, and confirmed all the trusts, estates, terms, and conditions" of the Founding Grant and of all the deeds, conveyances, and other instruments made and delivered before that date, and authorized the Legislature, under certain conditions, to exempt the property of the University from taxation. Article 13 of the State Constitution, as amended November 3, 1914, exempts from taxation the buildings, grounds (not exceeding one hundred acres), equipment, securities, and income, used exclusively for educational purposes, of any educational institution of collegiate grade not conducted for profit.

The University Faculty

"The Trustees shall constitute the President and professors the faculty of the University, and shall prescribe their powers and duties as such."

Under the Articles of Organization, adopted by the Board of Trustees March 31, 1904, the power and authority of the University Faculty

is vested in the Academic Council, consisting of the President of the University, the professors and associate professors, the librarian, the registrar, the academic secretary, such assistant professors as have been upon the roll of the faculty for three years, whether as assistant professors or instructors, and such other officers of the University or members of the teaching staff as the Academic Council may, with the assent of the Board of Trustees, determine.

All general University regulations, statutes, and rules as to matters within the province of the faculty, must be initiated in and passed by the Academic Council. The Academic Council has general power and responsibility for the internal administration of the University, subject to express provisions contained in the Articles of Organization respecting the methods of exercising such powers through the President of the University, the Advisory Board, the Standing Committees, and the Department Faculties.

The Advisory Board consists of nine members of the rank of professor, one from each of the five department groups, and four chosen without reference to groups. All executive acts of general importance, such as recommendations for appointments, promotions, and dismissals, for the creation of new departments or chairs, etc., must be submitted by the President to the Advisory Board. The Advisory Board is also privileged to make such recommendations to the President, regarding policy, as it may decide by vote to be expedient, but no recommendations for appointments, promotions, or dismissals, may originate with the Advisory Board.

The Executive Committee of the Academic Council consists of the President, vice-president, registrar, academic secretary, and two members from each department group elected by the Academic Council. The Executive Committee appoints the Academic Committees of the Council.

The Standing Administrative Committees of the Council are appointed by the President.

The Department Faculties consist of the professors, associate professors, assistant professors, and instructors in the several departments, but only members of the Academic Council have the right to vote. A Department Faculty has direction of the work of instruction in the department and of the internal administration of the department, subject only to such control as is vested in the Board of Trustees, the President of the University, and the Academic Council. The executive Head of the Department Faculty is designated annually by the President with the approval of the Advisory Board and of the Board of Trustees.

Departments

The work of the University embraces the following departments, divided into groups for the purpose of elections to the Advisory Board and Executive Committee, as indicated:

(I) English, Germanic Languages, Greek, Latin, Romanic Languages; (II) Anatomy, Bacteriology and Experimental Pathology, Botany, Entomology and Bionomics, Medicine, Physiology, Zoology; (III) Chemistry, Geology, Mathematics, Physics, Psychology; (IV) Economics, Education, History, Law, Philosophy, Political Science; (V) Applied Mathematics, Civil Engineering, Electrical Engineering, Mechanical Engineering, Mining and Metallurgy.

The Hopkins Marine Station, located at Pacific Grove, on the Bay of Monterey, is a branch of the biological work of the University.

The University Year

The University year begins the first of October and is continuous throughout four quarters of approximately eleven and a half weeks each. Any three quarters constitute an academic year. The summer quarter differs from other quarters only as the courses of study in the various departments may be contracted, or expanded, or specialized to meet the needs of a particular constituency; or, as in Physiology and Zoology, where the entire summer program is transferred to the Hopkins Marine Station at Pacific Grove. The emphasis of the summer quarter is placed on advanced and graduate work.

Location

The seat of the University, except for the advanced and clinical work in Medicine, is at Stanford University, in the Santa Clara Valley, thirty miles southeast of San Francisco, on the Coast Division of the Southern Pacific Railway. The grounds of the University consist of over seven thousand acres, partly level and partly rising into the foothills of the Santa Cruz Range. The Bay of San Francisco lies about three miles east of the University grounds. Across the bay the Mount Diablo Range rises to a height of over four thousand feet, the Lick Observatory crowning Mt. Hamilton, the highest of the range. The Santa Clara Valley is one of the most attractive portions of the State in fertility, in natural beauty, and in the excellence of its climate. In winter the mercury rarely falls below 30 degrees, with an average midday temperature of about 55 degrees. In summer the midday temperature ranges between 60 degrees and 80 degrees, with occasional higher and lower numbers, the average being about 70 degrees; the nights are

cool, the usual range being from 50 degrees to 58 degrees. The rainfall, normally about eighteen inches, is chiefly confined to the months from December to April, inclusive.

Buildings

The central group of buildings, constituting two quadrangles, the one surrounding the other, is an adaptation of the Mission Architecture, and reproduces on an imposing scale the open arches, long colonades, and red-tile roofing of the old Spanish Missions of California. The Inner Quadrangle consists of twelve one-story buildings and the Memorial Church, connected by a continuous open arcade, and surrounding a court 586 feet long by 246 feet wide, or three and a quarter acres. The buildings are buff sandstone, somewhat varied in color, the stonework of broken ashlar, with rough rock-face, and the roofs covered with red tile.

The fourteen buildings of the Outer Quadrangle are constructed of the same material and in the same general style as the Inner Quadrangle, with open arcades on the outside. The extreme length of the Outer Quadrangle is 894 feet.

The Leland Stanford Junior Museum, situated a quarter of a mile from the Quadrangles, on the west side of the Palo Alto Avenue, contains the archæological and art collections of the University.

The Chemistry Building, located between the Quadrangles and the Museum, consists of two separate structures—the main building and the Physical Chemistry Laboratory.

Behind the central quadrangles are located the workshops of the Engineering departments, experimental laboratories, etc.

The dormitories are east and west of the Quadrangles. Encina Hall, situated east of the Quadrangles, and Sequoia Hall, west of the Quadrangles, are dormitories for men; the former will accommodate four hundred and fifty students, the latter, one hundred. Roble Hall, situated southwest of the Quadrangles, near Lagunita, is the dormitory for women and will accommodate two hundred and twenty-six students.

Encina Gymnasium, for men, is a brick building with a frontage of 330 feet, situated north of Encina Hall and near the athletic grounds. There are two main divisions separated by a small court. The drill hall is 120 by 65 feet, with hard maple floor. There are rooms for special exercises, shower and locker rooms in each wing, ample offices, and space for storage and laundry. An outdoor swimming pool 100

by 40 feet, constructed by the Associated students, is available to all undergraduate men, and to graduate men upon payment of the prescribed fees.

Roble Gymnasium, for women, is a frame building equipped with apparatus for physical education. An outdoor swimming pool, 75 by 40 feet, is located near the gymnasium. In connection with the pool there are eighteen shower rooms, seventy-two dressing rooms, a laundry and sterilizing plant to care for the swimming suits, and a room for their drying.

The University Inn is a frame building, operated as a cafeteria primarily for students living on the campus.

The Thomas Welton Stanford Art Gallery, the first building of the second quadrangle group, has the same arched arcades as the original quadrangle, but the arched entrances, of which there are three, are higher and more elaborate in detail.

The Library Building is the central unit in the second quadrangle group. The ground floor provides a reading room for books set apart for collateral reading, a department of public documents, and administrative work rooms. On the main floor are the delivery hall, the reference and reading rooms, a browsing room, a periodical room, the card catalogue, and the administrative rooms; on the mezzanine and top floors, a large study room, and smaller rooms of varying sizes for seminary and special research work.

The grounds immediately about the University have been reserved in part for experimental and ornamental purposes, in part as residence sites for members of the faculty and others who may desire to live on the University campus.

The main buildings of the Medical Department in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets. They consist of the Clinical and Laboratory Building, including Lane Hall, and Lane Hospital, a modern building in brick and stone, with a capacity of one hundred and eighty beds. The Lane Medical Library is situated on the corner of Sacramento and Webster streets, opposite the Clinical and Laboratory Building. The Library is a fireproof structure of Colusa sandstone, three and a half stories high, with steel stacks accommodating 60,000 volumes. The Stanford University Hospital, completed in 1917, is a concrete structure with a capacity of one hundred and thirty beds.

The Hopkins Marine Station is located at Pacific Grove. The grounds consist of nearly five acres, at Almeja Point, with a sheltered

landing place and harbor for boats of considerable size. A concrete building forty feet by eighty feet, three stories in height, provides the necessary laboratories, acquarium, store rooms, library, photographic dark room, etc. There are five laboratories available for classes and eight private laboratories for investigators.

Club-Houses

The Stanford Union is a club-house for men, first projected by Herbert C. Hoover of the class of 1895, and built by contributions from students, alumni, faculty, trustees, and friends of the University. The Union was opened in February, 1915, and is in charge of a Board of Trustees made up of two faculty members, three alumni, and two undergraduates.

The Women's Club-House provides a social center for the women of the University, and is similar in plan and construction to that of the Union. The club-house was opened in February, 1915.

ADMISSION TO THE UNIVERSITY

CANDIDATES must be at least sixteen years of age. They must present satisfactory recommendations as to personal character and must offer approved credentials as indicated below. Application forms for candidates from other colleges and universities, and recommendation blanks for candidates from preparatory schools, may be obtained on application to the Registrar.

First-Year Standing

The requirements for first-year undergraduate standing are measured in terms of high school preparation, and imply the completion of a regular high school course or its equivalent. *Fifteen* entrance units (including at least two in English) cover these requirements.

Entrance units are credited, without examination test, under the following conditions:

(1) The candidate must have been duly graduated from an approved preparatory school;

(2) The candidate must be recommended as prepared to take up college studies on the basis of character, seriousness of purpose, and good scholarship (as defined under Groups III and IV below);

(3) While all subjects included in a regular high school course may presumably be offered for entrance credit, the University reserves the right to revise credit values and to reject subjects not standardized or not pursued to adequate results.

The University holds no entrance examinations and does not admit students with entrance deficiencies. In general, candidates are advised to remain in the preparatory school until they fulfill the requirements for admission on recommendation; but partial recommendation (*i. e.*, in less than fifteen entrance units, but based on the completion of a full high school course and graduation from the school) may be supplemented by the examinations of the College Entrance Examination Board. The Board examinations are held in June, in all parts of the country. For particulars (Document No. 96) and application blanks, send fifteen cents to Secretary, College Entrance Examination Board, 431 West 117th St., New York City.

Candidates not graduates of an approved preparatory school may fulfill the requirements for undergraduate standing by passing the

examinations of the College Entrance Examination Board (or of any university of recognized high standing) in subjects aggregating fifteen units (at least two units being in English). By special permission the comprehensive examination may be substituted for the regular examinations covering fifteen entrance units.

The subjects for the comprehensive examinations are to be determined as follows:

(1) English;

(2) A foreign language, selected by the candidate;

(3) Either Mathematics, or Chemistry, or Physics, (or Biology, or Botany, or Zoology), selected by the candidate;

(4) A fourth subject, selected by the candidate, from the subjects in which examinations are held.

These four examinations must be taken at one time. At least two examinations must cover more than two entrance units each. In each subject selected the examination must cover all the units offered for admission in that subject by the candidate.

Special Regulations Governing Admission of Men

Candidates for admission approved by the Committee on Admission and Advanced Standing are classified in four groups, as defined below. Those placed in Groups I and II will be admitted without numerical restriction. In Groups III and IV the number of matriculants is limited to a maximum of 450 for the autumn quarter, and fifty each for the two succeeding quarters. For the present no limit (below 450) will be placed upon the summer quarter, except that if more than 50 summer matriculants in Groups III and IV re-register for the autumn quarter the 450 matriculants allotted to the autumn quarter shall be correspondingly reduced. (These regulations do not, for the present, imply any restriction upon the number to be admitted from Group III, and candidates placed in this group are presumably assured of admission.) No additions to Group III will be made after August 15th, December 20th, March 15th, and June 1st, respectively, for the next succeeding quarter. Credentials of lower-division candidates not placed in Group III will be canvassed immediately after the dates named; those approved by the Committee will be placed in Group IV and will be certified for admission in order of merit (after these dates, in order of adjustment of credentials) until the limit fixed has been reached.

GROUP I: GRADUATE STANDING

Graduates of colleges and universities of recognized standing whose credentials evidence ability and promise and who expect to become

candidates for advanced degrees, or for the high school teacher's certificate, or who purpose to pursue regular advanced, professional, or research courses.

GROUP II: UNDERGRADUATE STANDING (UPPER DIVISION)

Students from colleges and universities of recognized standing whose previous records have been thoroughly satisfactory, and who present credentials showing full satisfaction of requirements for undergraduate standing and the completion of college courses amounting to 67 or more units (one and a half years).

Fully recommended graduates of State Normal Schools and of other normal schools of equal standing, and advanced students from the High School Junior Colleges, may be placed in Group II.

GROUP III: UNDERGRADUATE STANDING (LOWER DIVISION A)

(1) *On Examination.* Candidates who have passed the regular entrance examinations of the College Entrance Examination Board in subjects aggregating fifteen units; or who have passed the comprehensive examinations in the four subjects designated by the University. Permission to take the comprehensive examinations will be based upon the completion with credit of a four years' high school course or its equivalent.

(2) *On Recommendation.* Graduates of approved perparatory schools who have attained 'recommending' grades in subjects aggregating fifteen entrance units. In schools which do not distinguish between a passing and a recommending (certificate) standard no grade will be considered by the University as of recommending (certificate) standard unless it be at least five per cent higher than the lowest passing grade.

Holders of New York Regents' Diplomas granted *with credit,* and candidates from China, Japan, and other foreign countries who present credentials equivalent to those named above, and whose command of written and spoken English shall be deemed adequate for purposes of college study, may also be placed in this category.

(3) *On College Credentials.* Students from colleges and universities of recognized standing whose previous records have been thoroughly satisfactory, and who present credentials showing full satisfaction of requirements for undergraduate standing and the completion of college courses amounting to less than 67 units (one and a half years).

GROUP IV: UNDERGRADUATE STANDING (LOWER DIVISION B)

(1) Graduates of approved preparatory schools who have obtained 'recommending' (certificate) grades in subjects aggregating at least twelve units, and who, in spite of lower passing grades in the remaining subjects necessary to make up the required fifteen units, are recommended for full undergraduate standing on the basis of a general high average or decided intellectual promise.

(2) Men of considerable maturity, twenty-one years of age or older, who do not fulfill the requirements for regular undergraduate standing, but whose incomplete preparation has been supplemented by practical training and experience of distinct educative value. Candidates admitted under this provision are special students and not candidates for a degree except as noted on page 94.

(3) Candidates ordinarily classified in Group III, whose credentials are received after August 15th, December 20th, March 15th, and June 1st, respectively.

Special Regulations Governing Admission of Women

The Founding Grant of the University, as amended May 31, 1899, directs "that the number of women attending the University as students shall at no time ever exceed five hundred."

The same scholarship standards apply as in the case of men (except that the provisions noted under Group IV for men do not apply in the case of women).

All women candidates for admission must make application in advance on blanks furnished by the University. (Apply to The Registrar, Stanford University, California.)

Applications may be made any length of time in advance. Applications for undergraduate standing made *earlier that six months* before the proposed date of matriculation must be renewed sometime *within the six months* immediately preceding this proposed date; *i. e.,* sometime between the following dates for the next succeeding quarter: April 1–July 15 (for October); July 1–November 15 (for January); October 1–March 1 (for April); December 15–June 1 (for June . Candidates for graduate standing may apply, or renew application, up to and including the proposed date of matriculation.

Early application for undergraduates is important—preferably four or more years in advance of the proposed date of matriculation. One renewal is sufficient provided it is made within the six months immediately preceding the proposed date of matriculation.

Approved candidates are admitted to the University in three ways, as follows:

a. In order of application (undergraduate Numbered List). Applications must have been duly made (with necessary renewal) and complete credentials placed in the hands of the Registrar by July 15th, November 15th, March 1st, and June 1st, respectively, for the next succeeding quarter. (After the lists are made up on the dates named additional numbered cards will be issued in the order in which complete credentials are received. In case two or more candidates present complete credentials at the same time the order of precedence will be determined by the original date of application.)

b. As graduate students, candidates for advanced degrees or for the teacher's certificate, or expecting to pursue regular advanced, professional, or research courses (graduate Preferred List). Applications and satisfactory credentials must be in the hands of the Registrar on or before the proposed date of matriculation.

c. On the basis of exceptionally high scholarship and special fitness, without regard to date of application (undergraduate Preferred List). Application (renewed if necessary) and complete credentials must have been in the hands of the Registrar by July 15th, November 15th, March 1st, and June 1st, respectively, for the next succeeding quarter. Candidates passing the Comprehensive Examinations with high grades (an average grade of 75 for the four subjects) will be automatically placed on the Preferred List.

The Preferred Lists are begun and closed immediately after the dates named. Candidates on the Preferred List are presumably assured of admission if present on the regular registration days.

Numbered and Preferred List cards will be mailed to candidates about a week or ten days after the dates mentioned above.

Applications made for a given date may be transferred to an earlier or later date by written notice filed with the Registrar. The advantage of the original date of application is retained. (In the case of candidates receiving numbered cards for a given date, but transferring to a later date, the original *number* is not retained, a new numbered list being made up for each matriculation period.)

Women once admitted to the University will be allowed to continue without further application, so long as scholarship and conduct are satisfactory, and provided they present themselves for registration at the beginning of each quarter on the regularly appointed day; (but special restrictions apply to registration for the summer quarter, and to summer matriculants desiring to re-register for succeeding quarters).

Places will not be held for women students after the regular registration day, except by permission of the Committee on Registration granted in advance.

The regular lists for the summer quarter will be made up immediately after June 1st, but it is not improbable that credentials received after this date will qualify for admission. Matriculation for the summer quarter, however, does not insure registration for any succeeding quarter. Summer matriculations will be considered in the same category as other applicants, and will receive only the advantage which inheres in early application or superior credentials. (For the summer quarter it is not expected that the number of women will reach the five hundred limit; all who fulfill the regular requirements may presumably be assured of admission if present on the regular Registration Day.)

On registration day candidates on the numbered list will register according to their serial order and to the estimated number that will not exceed the 500 limit. Should this estimate prove too high the necessary cancellations will be made on the following day, beginning with the highest number. If less than 500 women shall have registered at the close of the regular registration period, others on the numbered list will be permitted to register, in their serial order, until the full number is complete.

Complete credentials comprise: for *first-year standing,* (1) formal application with necessary renewal, (2) fifteen accepted entrance units; for *advanced standing,* (1) formal application with necessary renewal, (2) full certified statement of college record, including entrance credits, (3) letter of honorable dismissal; for *graduate standing,* (1) formal application, (2) diploma or certificate of graduation, (3) transcript of college record.

Entrance Units

An Entrance Unit represents a year's study in any subject in a secondary school, constituting approximately one quarter of a full year's work. In assigning credit values two laboratory, drawing, or practice periods, not requiring additional study or preparation, are regarded as the equivalent of one recitation period. The length of the school year is assumed to be from thirty-six to forty weeks.

Approved Preparatory Schools

Approved Preparatory Schools are schools maintaining full four-years courses of high school work and accredited (1) by The New England College Entrance Certificate Board, by The North Central Association of Colleges and Secondary Schools, by colleges and universities of

recognized standing, or (2) upon inspection undertaken or authorized by the University.

The University records of first-year students will be considered as additional evidence of the standing of preparatory schools and of their good faith and success in meeting the requirements of the University, and such evidence will be made use of in determining as to the continuance of accrediting relations.

Entrance Examinations

The entrance examinations of the College Entrance Examination Board are held in June each year (in California, at Berkeley, Los Angeles, and other places).

Applications for examination must be addressed to the College Entrance Examination Board, 431 West 117th Street, New York, N. Y. They must be made upon a blank form to be obtained from the Secretary of the Board upon request.

If the application is received sufficiently early the examination fee will be $6.00 for candidates examined in the United States and Canada and $20.00 for candidates examined outside of the United States and Canada. The fee, which must accompany the application, should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

The applications and fees of candidates who wish to be examined outside of the United States and Canada must reach the Secretary of the Board at least six weeks in advance of the examinations (that is, for 1921, on or before May 9, 1921).

The applications and fees of candidates who wish to be examined in the United States at points west of the Mississippi River, or in Canada, must be received at least four weeks in advance of the examinations (that is, for 1921, on or before May 23, 1921).

The applications and fees of candidates who wish to be examined in the United States at points east of or on the Mississippi River must be received at least three weeks in advance of the examinations (that is, for 1921, on or before May 30, 1921).

When the candidate has failed to obtain the required blank form of application for examination, the usual examination fee will be accepted if the fee arrive not later than the specified date accompanied by a memorandum containing the name and address of the candidate, the exact examination center selected, and a list of all the subjects in which he may have occasion to take the Board's examinations.

Applications received later than the dates named will be accepted

when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of $6.00 in addition to the regular fee.

A list of the places at which examinations are to be held by the Board is published about March 1st of each year. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1st.

In these examinations the University has designated 60 as the lowest passing grade.

A definition of Requirements in the various subjects in which examinations are held is given in Document No. 96, issued by the Board. (Price 15 cents; address Secretary, College Entrance Examination Board, 431 West 117th street, New York, N. Y.)

Entrance Subjects

The standard of preparation is the four-years high school course. The proper coördination of high school subjects for the individual pupil is regarded as primarily a problem for the secondary school; the University is prepared to recognize for entrance credit any subject having an established place in the secondary school curriculum, in which adequate instruction is given and which is pursued to satisfactory results.

No prescription of subjects, other than Engilsh, is made; but certain subjects required before the end of the second year in the University may be anticipated in the high school (see p. 100). Candidates desiring to study mathematics must obviously offer such elementary mathematics as is not taught in the University, and engineering students are expected to offer also trigonometry. Candidates desiring to study Latin should offer at least two entrance units in that subject. Elementary language courses in French and Spanish given in the University require the payment of special fees.

All first-year undergraduates (including special students, and students coming from other institutions with less than twenty units of advanced credit) will be required to satisfy the University standard in English Composition. This may be done by passing a special Matriculation Test given during matriculation week. The examination will test the candidate's ability to write exercises not only free from marked deficiencies in spelling, punctuation, sentence structure, and paragraphing, but also indicative of his ability to think consecutively on a simple subject. The subjects which are set at the time of the examination will be drawn for the most part from the candidate's own experiences.

A student who does not pass will be required to register in English A at once (unless, by reason of numbers, such registration is postponed to a later quarter), and remain in the course until his work is of passing grade. Some students, whose work shows exceptional promise of maturity, may be assigned to English 2 instead.

Definition of High School Subjects

The definition of high school subjects given by the College Entrance Examination Board (Document No. 86 issued by the Board) will serve as a standard, and also for California schools, the outline prepared by the University of California. The following suggestions and explanations will indicate the attitude of the University in judging entrance credentials, but no attempt is made to enumerate all the subjects which may be properly included in the high school curriculum.

1. English.—The primary aim of instruction in English Composition in the secondary schools is clearness. Based upon grammatical correctness, which is the peculiar goal of elementary English Composition, this is the quality by which the Stanford matriculation test is rated. To attain these aims there should be a definite coöperation of the entire staff of the school.

The work in English Composition should be given at least two recitations a week throughout the entire high school course. The greater part of the student's time outside of class should be devoted to practice in writing, but it is recommended that some attention be also paid to instruction in the fundamental principles of formal rhetoric.

The work in English Literature should be given an average of at least three recitations a week throughout the four years of the preparatory course. It should be so conducted as to give the student not only an appreciative understanding of the books selected either for general or for more intensive study, but also a knowledge of their place in the history of English Literature, together with an ability to read aloud intelligently both prose and verse.

In the History of English Literature preparation should consist in a brief outline with a view to making clear the character and the tendencies of the more important literary epochs and associating the chief books and authors in their proper periods.

2. Mathematics.—The work in Mathematics is usually distributed as indicated by the following unit values: algebra (1 to 2), plane geometry (1), solid geometry (½), trigonometry (½). Additional work may be offered in algebra and plane analytical geometry. The

solution of numerous original problems and exercises is assumed throughout the course.

3. The Sciences.—In Physics, Chemistry, Physiology, Botany, Zoology, Hygiene, and General Science a full year's work in each is expected, comprising, preferably, two recitation periods and three double laboratory periods per week. Accurate notes of the laboratory work should be kept. Any two of the biological sciences (Physiology, Botany, Zoology) may be combined into a continuous year's course. Astronomy may be offered as a half-unit course.

Students who receive entrance credit in Chemistry, and who wish to continue the subject in the University, will be admitted at once to course *b* and will be required to begin course 1.

In Physiology the text-book work should be accompanied by experiment, dissection of animals and organs, and a certain amount of study of the tissues with the microscope.

In Botany the main thing is that the work shall be of a practical nature; the study mainly specimens and not books. A study of the growth and development of the forms selected is of the highest importance, and should be made a prominent feature in the work. If possible, the pupil should be allowed the use of a compound microscope; but when this is not practicable, microscopic demonstrations by the instructor are indispensable.

In Hygiene the work should include adequate instruction in personal hygiene, the hygiene of occupation, and the relation of the citizen to the State in matters of sanitation and public health. Three periods per week of physical training and three periods in experimental laboratory work in Hygiene, and two recitations per week on Public Health, or an equivalent amount of work distributed over a longer period, will cover the requirements for one unit of credit.

4. History and Allied Subjects.—History should be offered in full unit courses covering respectively the following divisions: (*a*) Ancient, (*b*) Mediæval and Modern, (*c*) English, (*d*) American. Civics may be offered as a part of American Histry, or as an additional half-unit course. (A two-years course covering the first three subjects (*a, b, c*) will be accepted.) Biblical History and Literature and Economics may each be offered as a half-unit or a unit course.

In the History subjects, in addition to the text-book preparation, the following exercises are recommended: Supplementary reading, including the use of original material where possible, notes and digests of reading; abstracts or analyses of specified chapters, both of the

text-book and supplementary reading; outlines of subjects, gathering material from all available sources; map drawing from printed data or comparison of existing maps, showing movements of exploration, migration or conquest, territorial changes, or social phenomena. Such work should be regarded as a means rather than the end of historical study, and in every instance should be adapted in character and amount to the stage of advancement of the class and of the individual pupil. As the pupil progresses in his study, more advanced work may well be required in the form of historical composition and of note taking in the class from talks by the teacher or reports of fellow pupils.

5-6. Spanish and French.—The elementary study of the languages, covering two years of daily recitations, should lay stress on the following points: (1) An accurate knowledge of the forms of the languages; (2) the elements of syntax; (3) the ability to turn easy English prose into French or Spanish; (4) the ability to translate ordinary French or Spanish into idiomatic English; (5) the ability to pronounce French and Spanish correctly.

(Students who have had one year of French in the high school and present one unit of credit for entrance into the University may take course A2. Those who have had one year of Spanish in the high school and present one unit of credit for entrance, may take course B2. Those who have had two years of French or Spanish in the high school, and present two units of credit for entrance, may take second year work in the University.)

The intermediate requirements are intended to represent a third year of daily recitations. The specific demands are: (1) A thorough knowledge of modern French and Spanish syntax; (2) the ability to turn ordinary modern French and Spanish at sight into idiomatic English; (3) the ability to translate connected English prose of moderate difficulty into French or Spanish; (4) the ability to write French or Spanish from dictation; (5) some facility in speaking the languages.

(Students who have had three years of French in the high school, and present three units of credit for entrance into the University, will ordinarily take course A22. Courses A24 and A30 are also open to them. Students who have had three years of Spanish in the high school, and present three units of credit for entrance into the University, will ordinarily take course B22. Course B30 is also open to them.)

The advanced requirements will occupy a fourth year of daily recitations. At the end of this course the student should be able: (1) To read at sight any standard author not earlier than the seventeenth

century; (2) to write in French or Spanish a short essay on some simple subject connected with the works read; (3) to translate correctly a passage of modern English prose; (4) to carry on a simple conversation in French or Spanish; (5) to follow a lecture in French or Spanish.

The reading in the elementary course should cover from four hundred to six hundred duodecimo pages; in the intermediate course a similar amount should be read of prose and verse, a portion to be in the dramatic form; and in the advanced course the same quantity of prose and verse should be selected from standard authors not earlier than the seventeenth century, and these should be read with reference to their literary value.

The practice of writing compositions consisting in reproductions or paraphrases of the matter read should be begun in the intermediate course and followed by short themes along similar lines in the advanced course.

7. German.—Elementary German represents the work of two high school years with daily recitations. It should give the following preparation: The ability to read understandingly easy German prose and verse at sight; an accurate knowledge of the most important elements of grammar, embracing especially inflections, word-order, and the essentials of syntax, as also the ability to appreciate the force of prefixes and suffixes; the ability to express in correct German simple ideas concerning familiar things and to recognize German words and simple sentences when spoken. Careful attention should be given to pronunciation and accentuation.

The amount of work to be accomplished in the first year is approximately what is contained in a beginner's book such as Zinnecker's Deutsch für Anfänger, with some additional reading. The reading of the second year should be for the most part graded modern German from 200 to 300 pages. German should be the language of the classroom, instruction in conversation, composition, and grammar being based largely on the reading text.

Intermediate German represents a third year of daily recitations, designed to extend and strengthen the pupil's personal command of the language, and his knowledge of word formation and syntax. Here again the reading matter should be, in large measure, the center of the instruction, and some attention should be paid to literary appreciation.

Advanced German represents a fourth year of daily recitations. Besides rounding out the pupil's knowledge of grammar, and increas-

ing his facility in speaking and writing, this course should make considerable addition to his passive vocabulary and develop his literary appreciation. It would be advisable to choose most of the reading from the works of recent or contemporary writers, but some work or works of Lessing, Goethe, and Schiller should be studied intensively, while others might be assigned for outside reading and report.

8. Latin.—The reading required in elementary and advanced Latin (4 units, without regard to the prescription of particular authors and works, is not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Virgil, Aeneid, I-VI. An equivalent amount of reading from authors other than those specified above may be substituted. The following are suggested: Caesar, Civil War; Eutropius; Nepos; Terence, Phormio; Cicero, Letters; Sallust; Virgil, Bucolics and Georgics; Ovid, Metamorphoses.

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural Engilsh.

The school work in Latin should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be practiced.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

9. Greek.—In Elementary Greek (2 units) the following requirements should be covered: Grammar, the inflections, and the essential points of syntax; Xenophon's Anabasis, Books I-IV, or an equivalent; prose composition. It is expected of every pupil that he be able to read Greek aloud without stumbling.

In Advanced Greek (1 unit): Homer, Iliad, Books I-III, or an equivalent; advanced prose composition. The pupil should have a good acquaintance with the forms and syntax of Homer, and be able to scan any given passage exactly and to read it rhythmically. In the writing of Greek the pupil should have a year's training beyond that required in Elementary Greek.

10. Drawing and Applied Art.—In each of the drawing subjects (Freehand, Mechanical, and Architectural) a unit of credit represents daily double periods for a year or single periods for two years.

In Freehand Drawing approximately two-thirds of the time should be given to representation and one-third to decorative and constructive design. *Representation* should include: Object drawing, boxes, books, bowls, vegetables, machine parts, drawn in various positions with attention to perspective facts in line and also to light and shade; plant forms, seed pods, shells, insects, animals, and simple landscape, drawn in line, in light and shade, and in color; composition, exercises in arrangement and adaptation of pictorial subjects into good composition, using both rhythmic line arrangement and harmonious color. The style of drawing should be direct, facile and effective, adapted to the thing drawn, with refinment in its proper place and vigor in its proper place. The pupil should be equally familiar with the use of pencil and charcoal or brush. *Design* should include (1) Exercises in space filling, borders and all-over patterns with use of geometric and organic forms; (2) principles of constructive and decorative design applied to simple objects, as: in printing, a title-page or program; in textiles, a stencil or embroidery design for a curtain or table-scarf; in wood, working drawings for a chair, table, clock-case, book-rack, etc.; in metal, cabinet hardware and lighting fixtures, etc. Talks supplemented by photographs of the best paintings and architecture, and talks upon taste in home furnishing and appointments, with visits to worthy examples, should supplement the course with a view to developing an enlightened taste in art.

In Mechancial Drawing the pupil is expected to acquire neatness and accuracy in the use of drawing instruments. This course should include practice in line work, lettering, machine or architectural work-

ing drawings, and tracing. Recognition, commensurate with the length of course and the degree of proficiency attained in the use of instruments, will be given, however, to courses consisting of line work, lettering, the construction of geometric figures.

11. Shopwork.—Two things are expected: First, a knowledge of the materials and tools used, and a thorough understanding of the principles involved in the operation performed; second, manual dexterity, as evidenced by neatness, accuracy, and dispatch in the execution of a given piece of work.

Woodworking (½ unit) demands the ability to recognize the common varieties of wood, and some knowledge of their physical properties, such as ease of working, strength, toughness, hardness, etc., is expected. The pupil should be familiar with the uses of the principal hand tools of carpentry and with their care, be able to make the ordinary kinds of joints and splices, and be familiar with the operation of the lathe, jig-, band-, and circular-saws, and planing machines.

Forge Work (½ unit) demands an elementary knowledge of the properties of wrought iron and steel, and of the proper heats at which to work them. The management of forge and fire and the nature and uses of all the ordinary blacksmithing tools should be known. The pupil should be able to execute all of the common forging processes, including the various forms of welds in iron and steel; he is also expected to understand hardening, tempering, and annealing.

Foundry Work (½ unit) demands a knowledge of the tools and processes used in the ordinary forms of green sand molding and core work. The pupil should have had experience in the operation of the cupola and know how to charge and operate it. He should have a knowledge of the properties of cast iron, and experience in pouring cast iron as well as in molding.

Machine Shop Work (½ to 1 unit) demands a knowledge of the tools and processes used in the working of iron, steel, and brass. The pupil should be able to execute all forms of vise-work, such as chipping, filing, scraping, fitting and finishing. He should be familiar, through experience in operation, with the simpler forms of machine tools, such as the lathe, drilling machine, planer, shaper, and milling machine.

12-15.—In Agriculture, Horticulture, Domestic Science, Commercial subjects, and Music the outline prepared by the University of California is suggested; also, in Music, the definition given by the College Entrance Examination Board.

FEES, EXPENSES, AND AID FUNDS

Tuition and Incidental Fees

THE Tuition Fee for graduates and undergraduates in all departments (except Medicine) is $40 per quarter. The Tuition Fee in Medicine is $50 per quarter.

The Incidental Fee for undergraduates is $20 per quarter. Students paying this fee have the privileges of the gymnasia, athletic grounds, Students' Guild, and Stanford Union or Women's Club House, with membership in the Associated Students, without further quarterly fees.

The Incidental Fee for graduate students is $13 per quarter. Graduates paying this fee have the privileges of the Students' Guild and the Stanford Union or Women's Club House, without further quarterly fees. Graduate students who desire to make use of the gymnasia or athletic grounds pay in addition a special fee of $5 per quarter; membership in the Associated Students may also be obtained by paying the quarterly fee of $2.

In addition to the above fees, students in laboratory courses pay for the materials which they use, and in various courses syllabus and other fees may be charged.

The General Fee at the Hopkins Marine Station (covering all charges) is $40 per quarter for graduates and undergraduates alike.

The fees for either half of the summer quarter are one-half of the corresponding fees for the whole quarter.

(Tuition and Incidental fees are ordinarily returnable, when duly claimed in writing within two months after the date of withdrawal from the University, as follows: two-thirds of the incidental fee and the whole of the tuition fee will be refunded when the student withdraws within two weeks after the date of registration; one-half of the incidental fee and two-thirds of the tuition fee when the student withdraws at a later time but within four weeks of the date of registration. Laboratory fees (except in Chemistry, where a different procedure is applicable) are likewise returnable when duly claimed in writing within two months after the date of withdrawal from the University, as follows: the whole amount will be refunded when the

student withdraws within one week of the beginning of a quarter, and one-half the amount if the student withdraws before the middle of a quarter; but no fees will be refunded on account of withdrawal after the middle of a quarter, nor unless claimed in writing within two months after the date of withdrawal.)

A Diploma Fee of $5 is charged all persons receiving degrees from the University.

Cost of Living

There are two dormitories for men (Encina Hall and Sequoia Hall) and one for women (Roble Hall).

Undergraduate men, not living with parents or guardians, are required to room in Encina Hall or Sequoia Hall during their first three quarters in the University. Application for room assignments in the Halls should be made to the Dean of Men, and should be accompanied by a deposit fee of $5. Men students not rooming in the Halls may live only in places approved by the University (consult Information Bureau or Dean of Men). Rooms in the Halls cost from $16.50 to $27 per quarter, payable at the beginning of each quarter. Board may be obtained at the University Inn, the Stanford Union, Sequoia Hall, and in various clubs, the cost ranging from $30 to $40 per month.

Undergraduate women, not living with parents or guardians, are required to reside in Roble Hall for three quarters. Women students not residing in Roble Hall may live only in places approved by the University (consult the Dean of Women). Rooms in Roble Hall cost $30 per quarter and board $90 per quarter. Room rent is payable in advance for the quarter; board, in advance for the quarter or in three installments ($30 each). Applications for rooms in Roble Hall should be made to the Dean of Women and must be accompanied by a deposit of $5. Rooms are assigned in order of application, and early application is advisable.

In Palo Alto and College Terrace, at an average distance of a mile and a quarter from the University, rooms and board (for men) can be obtained in private houses, at from $30 to $40 per month. There are usually coöperative clubs, in which the cost of board and room may be further reduced. Special commutation tickets are issued by the Southern Pacific Company, and students living in towns on the line of the railway, from San Francisco to San Jose, easily go to and from the University daily. There is also trolley connection with San Jose, Los Gatos, and intermediate towns.

The University Inn, located near the Quadrangle, has dining accommodations for about three hundred students. A restaurant is also maintained in the Stanford Union.

The cost of living for students of Medicine in San Francisco is about the same as at Stanford University. There are numerous rooming and boarding houses near the medical buildings.

FIXED EXPENSES PER QUARTER

The following is an estimate of the expenses *per quarter,* for undergraduate men, *for the items named*:

	Medium	High
Tuition and Incidental Fees	$ 60.00	$ 60.00
Books	10.00	20.00
Board	90.00	120.00
Room	18.00	30.00
Total for the quarter	$178.00	$230.00

(Laboratory and syllabus fees are additional, and in Medicine $10 must be added to cover the tuition fee. The cost of board is variable and the estimate given for men is conservative; a lower cost is possible in coöperative clubs. A fair allowance for incidentals (other than clothing and railway fares) should not bring the total expense for the quarter to more than $225 and $275, respectively. For women residing in Roble Hall room and board amount to $120 for the quarter, and the estimated cost, for the items named, totals $190; with incidentals, $230.)

Self-Support of Students

A considerable number of students find it possible to earn the whole or part of their expenses while attending the University. Success depends upon the student himself. The University, through the Student Employment Bureau, through the Appointment Secretary's Office, and in other ways, is able to help the student both in finding work and in making plans. It cannot, however, assume the responsibility for supplying work for all applicants. The student who combines initiative with industry and reliability, is the one who succeeds in this as in other undertakings. As a result of experience it is believed that no properly prepared student need hesitate to undertake a University course because of lack of means; if he is sufficiently in earnest in his desire to "work his way through" opportunities will not be lacking.

The student is not advised to enter the University without a reserve fund, to provide for immediate needs or unexpected contingencies. This fund ought ordinarily to amount to at least $200. The student needs time to get acquainted, to become adjusted to University methods and requirements, to systematize his University work, to learn about the various opportunities for earning money, and to discover how much time he can afford to devote to self-support, keeping in good health and still making study his main object. In general, the student should not undertake to earn a larger proportion of his expenses than is absolutely necessary; his working time is too valuable for this and should be devoted to his studies to the largest extent possible.

The most ready-to-hand means of earning one's board at the University, whether for men or women, is by waiting on table. From three to four hours per day will cover the time required, which comes when it is least missed. Such chances are to be found in the dormitories, in cafés, in boarding houses, and in public and private eating clubs. Other forms of work, for the relatively unskilled, are gardening, house work, care of children, janitor service, special jobs in connection with gymnasium and athletic activities, manual labor in connection with laboratory sections, agencies for laundries and other businesses, etc. Positions requiring more or less preliminary training have to do with the management of student enterprises, with clerking, bookkeeping, stenography and typewriting, music for dances, newspaper reporting, printing, tutoring, etc. For advanced students in the various departments there are opportunities to act as assistants in quiz sections, in the reading of examination papers and reports, etc. Laboratory assistants are usually students either in graduate or undergraduate standing, as are also some of the part-time assistants in the various administration offices. Other means of support are found in the scholarships and fellowships offered, and through the considerable loan funds now available. Special opportunities during the short vacations, particularly at Christmas time, can be found in San Francisco and elsewhere, as special Post-Office clerks or salesmen in the larger stores.

New students who must begin earning as early as possible, will do well to be on hand a little in advance of the opening of the University. They should promptly enroll with the Appointment Secretary, Room 170 in the Administration Building. Women should discuss their plans also with the Dean of Women.

Assistantships

Student-assistant positions in the various departments, held by either undergraduates or graduates, range in pay from $35 to $150 each per quarter, the average being about $75 per quarter. These do not include a considerable number of minor positions in laboratories or elsewhere where mere labor without skill or special knowledge is required, nor do they include those positions where the full time of the assistant is demanded.

Each department selects and recommends for appointment its own assistants. Requests for information as to pay and duties, and applications for appointment, should be addressed to the Executive Head of the department in which a position is sought.

Loan Funds

The following loan funds (with the exception of the Women's Student Loan Fund) are administered by the Committee on Scholarship. In general not more than one hundred dollars may be loaned to any one student, and provision is made for repayment, without interest, not later than one year after date of graduation or withdrawal from the University. Applications should be filed with the Academic Secretary of the University.

Horace Davis Loan Fund.—Mr. Horace Davis, charter member of the Board of Trustees, provided in his will a fund of $10,000, the interest of which is to be used as a loan fund for students. The amount at present available for loans is $850.

William Burton Barber Loan Fund.—Established in 1914 by Mrs. Anna M. Barber, in memory of her son, William Burton Barber, '02, "to provide for needy and worthy students." This fund, increased by over $3000 from the estate of Mrs. Jeannette Taylor, is available for men and women of the senior class who have been registered in the University for at least one quarter. The amount at present available is $6,509.80.

Stanford Alumni Association Graduate Loan Fund.—Loans are restricted to candidates for advanced degrees, including the A.M., J.D., M.D., and Ph.D. degrees, preference being given to candidates for the Ph.D. degree. In making loans emphasis shall be placed upon character, scholarship, and intellectual promise, in addition to personal need. $245.

Stanford Alumni Association Undergraduate Loan Fund.—"For worthy undergraduates." $500.

Harker Alumnae Association Loan Fund.—Established in 1917 by the Alumnae Association of Miss Harker's School, a large number of whose graduates have been Stanford students. There are no restrictions except that if a graduate of Miss Harker's School applies she shall be given preference, other qualifications being equal. $225.

Class of 1906 Loan Fund.—No restrictions except such as may be imposed by the Committee on Scholarship. $100.

Associated Students Undergraduate Loan Fund.—For the benefit of worthy undergraduates who are members of the Associated Students of Stanford University. $250.

Women's Student Loan Fund.—The Women's Student Loan Fund was organized by the Women's Conference and by private subscription, and is increased yearly by small sums earned by a committee of the Conference. It is available on the following conditions, for small emergency loans: (1) No interest to be charged until one year after the student leaves the University; interest then begins at six per cent, and is payable annually; (2) all loans to be paid within five years after the student leaves the University. Applications for loans from this fund should be made to the Dean of Women.

The Dickey Scholarships

In 1914 the Trustees of the University received from the estate of the late W. J. Dickey, of Fresno, the sum of ten thousand dollars for the establishment of the W. J. Dickey Scholarship Fund "to aid young men from Fresno County, preferably from Fresno City, to make their way through Stanford University." The Trustees of the Dickey Estate are Mr. E. A. Waldron, Cashier of the First National Bank of Fresno, and Mr. M. B. Harris, of the Fresno bar. The selection and appointment of the W. J. Dickey scholars is made by the President upon the recommendation of the Committee on Scholarship, subject to the provision that the trustees under the will of Mr. Dickey shall be consulted and their advice taken before any appointment is made. No one may be appointed to a Dickey Scholarship unless he shall have been a resident of the County of Fresno, and preferably of the City of Fresno, for at least two years prior to his appointment; and no scholarship may be held or shared by one person for more than four years.

No one may be appointed to a W. J. Dickey scholarship unless he has fulfilled all the requirements for regular standing in the University.

Other things being equal, preference shall be given, in making appointments, to first-year students.

Appointments are made for the college year, but may be terminated earlier at the discretion of the committee. Appointments may be renewed at the discretion of the committee, for a total period not to exceed four years.

In making its recommendation the Faculty Committee shall keep in mind that the donor of the W. J. Dickey Scholarship Fund wished the benefits therefrom to be derived by persons who are financially unable to make their way through college. In addition to this fact, character, scholarship, and seriousness of purpose shall be taken into consideration in determining appointments.

The W. J. Dickey Scholarship Fund provides for two scholarships of $300 each, payable in nine monthly installments.

Application for appointment to the W. J. Dickey scholarship, with pertinent evidence and testimonials, are to be made to the President of the University, who will refer it to the appropriate committee. Candidates shall be recommended by the committee to the President, who will submit the names to the trustees of the Dickey estate, and upon their approval appointments shall be made by the President of the University.

Memorial Scholarship

The trust establishing the Leland Stanford Junior Memorial Scholarship provides a fund of $6000, the income of which shall be used "to pay the living expenses, cost of books, fees, and other necessary expenses of the holder." Under the present arrangement the Memorial scholar receives in cash $25 per month or a total of $225 for the academic year. In addition, the trust sets aside a room in Encina Hall for the use of the holder of the scholarship, and for which no charge is made.

The Brodie G. Higley ('99) Scholarship

In 1915 Mr. B. G. Higley, of the class of 1899, established, through the Alumni Association, an annual scholarship of one hundred and fifty dollars, "open to either a man or woman undergraduate student who is in good and regular standing in the University, to whom the money will be a real assistance." In 1919 Mr. Higley deposited with the Board of Trustees securities to the amount of $3000 to perpetuate this scholarship.

The selection and appointment of the B. G. Higley Scholar will be made by the President upon the recommendation of the Faculty Committee on Scholarship. Appointment will be made for the college year, but may be terminated earlier on recommendation of the Committee and at the discretion of the President.

Applicants for the scholarship must have been registered in the University for at least three quarters prior to the time of application. In making appointments it will be the purpose of the University to emphasize character, scholarship, and intellectual promise, as well as personal need. The scholarship will ordinarily be payable in six equal installments, beginning October 1st. Applications should be filed with the Academic Secretary of the University.

The Mrs. McDowell Roble Club Scholarship

The sum of one hundred and fifty dollars per year has been presented to the University by Mrs. John E. McDowell for the purpose of establishing a scholarship to be granted to a member of Roble Club who has been a student in the University and a resident of Roble Hall for two years, the award being made at the close of the junior year.

The George E. Crothers Law School Scholarship

In 1917 Judge George E. Crothers, of the class of 1895, established a Law School Scholarship of the value of two hundred dollars annually.

The Bertha Hyde Braly Scholarship

In 1918 Mrs. J. M. Braly, of Fresno, established an annual scholarship of two hundred and fifty dollars, in memory of her daughter, Bertha Hyde Braly, '97. The scholarship is available for a woman student who is a resident of either Fresno County or Santa Clara County.

The Wilmer J. Gross ('16) Scholarship

In 1919 Mrs. Wilmer J. Gross (Dorothy Davy, '16), founded a scholarship of the value of $150 annually, in honor of her husband, Wilmer J. Gross, '16, who died in service in France; the scholarship to be open to all undergraduate men in the University who have been in residence at least one year. The appointment shall be based primarily on scholarship, but in addition good moral character and general excellence shall be considered.

The Dorothy Metz ('17) Scholarship

In 1920 Mrs. Lillian C. Metz established an annual scholarship, of the value of $200, in memory of her daughter, Dorothy Amanda Metz, '17, who died in service; the scholarship to be awarded "to a worthy and ambitious student of limited means."

The Gertrude Gardiner Scholarship

In 1920 Miss Gertrude Gardiner established a scholarship of the annual value of $200, to be known as the Gertrude Gardiner Scholarship,

and to be awarded to a non-sorority woman who has been a student in the University for two years and who is a resident of Roble Hall.

The Ernest A. Love ('18) Scholarship

In 1920 Mr. and Mrs. Allan Love founded a scholarship, of the value of $150 annually, in honor of their son, Ernest A. Love, '18, who died in service in France; the scholarship to be open to worthy and needy undergraduate men, preference being given to students from Arizona.

Tuition Scholarships

For the year 1919-20 Tuition Scholarships of $40 each, amounting to $640, have been provided as follows:

By Bernard C. Jones, '21, six scholarships "for needy and worthy students."

By Mrs. Gertrude Carson, two scholarships "preferably for a junior or senior male student."

By Manley Axtell Moule, '17, four scholarships "for earnest young men and women desirous of obtaining a higher education."

By the Phi Kappa Sigma Fraternity, two scholarships "for needy and worthy men students, freshmen or sophomores."

By Roble Club, two scholarships "for an undergraduate woman student."

Madame Jeanne R. Rouiller has established a scholarship of $160 in memory of her daughter, Marcelle Henriette Rouiller Calley, '15; the scholarship to be awarded to a worthy and needy student for the payment of the tuition fee.

The Stanford Scholarships

In 1919 the Trustees of the University established fifteen undergraduate scholarships, without stipend, to be known as the Stanford Scholarships, and to be bestowed on the basis of special scholastic attainments.

The John Maxson Stillman Scholarship in Chemistry

From the Stillman Testimonial Fund, presented to Professor John Maxson Stillman by graduates and former students in Chemistry, and others, on the occasion of his retirement from active service in the University, in May, 1917, there has been established the John Maxson Stillman Scholarship in Chemistry. The amount available is $150 per year, and the scholarship is open to undergraduate or graduate students in the Department of Chemistry upon nomination by the department faculty and approval of the President.

The William Irvin Weaver Scholarship

In 1920 Miss Eva Ray Weaver, '13, established a scholarship of the annual value of $150, in honor of her brother, William Irvin Weaver, '13, who died in service in France. The scholarship is to be known as the William Irvin Weaver Scholarship, and is to be awarded to a graduate or undergraduate student in the department of Chemistry, on the recommendation of the department faculty, subject to the approval of the President of the University.

The Alumni Jordan Scholarships

The Alumni Jordan Scholarship Fund has been founded largely by physicians who were at one time students of Stanford University. Its purpose is to pay the tuition fees of two or three medical students of high standing, with the understanding that at some future time the amount will be returned without interest. The student who once receives this scholarship loan will be entitled to its use throughout his medical course provided his work continues to be satisfactory.

The University Scholarships

In 1919 the Trustees of the University established thirty Stanford Scholarships for Graduate Students, each paying $200 per year of three quarters. Scholarships are awarded for a term of one year, at the expiration of which time the Scholar may be reappointed. Holders of Scholarships are required to pay tuition and incidental fees, the graduation (diploma) fee, laboratory expenses, and all similar charges laid upon other graduate students.

Thomas Welton Stanford Fellowship in Psychic Research

From the "Psychic Fund," created by Mr. Thomas Welton Stanford, in 1913, the Trustees have established the Thomas Welton Stanford Fellowship for Research in Psychic Phenomena.

The Buckel Fellowship

In 1914 the University established, through the coöperation of the Trustees of the estate of Dr. C. Annette Buckel, a Research Fellowship for the study of backward and feeble-minded children. The annual income from the Buckel estate is $500 and this is supplemented by a like sum appropriated by the Trustees of the University, making the total amount available for the fellowship $1,000.

Fellowships in Education

In 1919 two fellowships were established in Education of the value of $500 each: one, jointly by Professor Cubberley and the Board of

Trustees, to be known as the Fellowship in School Administration; the other jointly by Professor TERMAN and the Board of Trustees, to be known as the Fellowship for the Study of Superior Children. Ordinarily these will be awarded only to those who have completed at least one year of graduate study and who are ready to proceed to the Doctorate.

THE UNIVERSITY FELLOWSHIPS

In 1917 the Trustees of the University established two University Fellowships, and in 1919 five additional Fellowships, of the value of $750 each per year (three quarters). These fellowships are awarded annually by the Committee on Graduate Study with the purpose of fostering advanced study and research in the University.

In general, these fellowships will not be awarded to students in their first year of graduate study.

THE CYRIL F. ELWELL ('07) SCHOLARSHIP

In 1919 Mr. CYRIL F. ELWELL, '07, established a scholarship of the annual value of $300, to be awarded by the Committee on Graduate Study to a graduate student in the Department of Electrical Engineering, upon the recommendation of the Department.

THE HOOVER FELLOWSHIPS IN MINING AND METALLURGY

In 1920 Mrs. HERBERT C. HOOVER (Lou Henry, '98) and Mr. THEODORE J. HOOVER, '01, established two fellowships of the annual value of $600 each, for a period of two years, to be awarded to students in the Department of Mining and Metallurgy.

BELGIAN RELIEF COMMISSION FELLOWSHIPS

In 1919 the Committee for Relief in Belgium arranged for the establishment and support of a number of fellowships for 1920-21, for Americans to undertake graduate study in Belgian universities, and an equal number for advanced Belgian students in American universities. Four of these American fellowships have been assigned to Stanford University.

TEACHING FELLOWSHIPS IN CHEMISTRY

Two Teaching Fellowships in Chemistry of the value of $600 each, were established by the Board of Trustees in 1917.

SPERRY FELLOWSHIP IN CHEMISTRY

In 1919 the SPERRY FLOUR COMPANY established an industrial fellowship in Chemistry for the study of wheat and wheat flour. The com-

pany in establishing the fellowship offers the use of its mills, bakeries, and other plant equipment to supplement the University facilities.

Harvard Club Scholarships

The Harvard Club of San Francisco offers two scholarships, of the annual value of $350 each, to students residing in the neighborhood of San Francisco who may desire to pursue undergraduate studies in Harvard College, or postgraduate studies in Harvard University. Other things being equal, preference will be given to those desiring to pursue undergraduate studies. In awarding these scholarships the scholarly attainments of the applicants as shown by their records, their character, needs, and general development, will be considered. Applications should be made in writing not later than February 15th, to the Chairman of the Scholarship Committee of the Harvard Club of San Francisco, Mr. George S. Potter, 1827 Pacific Avenue, San Francisco, California.

Yale Alumni Association Fellowship

The Yale Alumni Association of California awards annually the sum of $300 (to which Yale University adds an amount equal to the charge for tuition) to a graduate of the University of California or of Stanford University, for the pursuit of graduate study at Yale. Applications should be addressed to the Secretary of the Yale Alumni Association, University Club, San Francisco.

The Rhodes Scholarships

Under the will of the late Cecil Rhodes two scholarships are assigned to each State and Territory in the United States. Each scholarship has a yearly value of $1,500, and is tenable at any college in the University of Oxford for three successive academic years.

Candidates must be unmarried, must be citizens of the United States, and must be not younger than 19 nor older than 25 on October 1st of the year in which they are elected. All scholars shall have reached before going into residence, at least the end of their sophomore year at some recognized degree-granting university or college. In accordance with the wish of Mr. Rhodes, the trustees desire that "in the election of a student to a scholarship, regard shall be had to (1) his literary and scholastic attainments, (2) his fondness for and success in manly outdoor sports, such as cricket, football, and the like, (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship, and (4) his exhibition during schools days of moral force of character, and of instincts to lead and take an interest in his schoolmates."

Students' Guild

The Guild is a student organization which seeks to make provision for the care of all cases of serious illness among its members. This is now accomplished for non-contagious diseases through an arrangement with the Peninsula Hospital at Palo Alto and, for medical students, with the Lane Hospital in San Francisco. For the care of contagious diseases, provision has been made by the maintenance of a Detention Hospital on the University Campus.

A uniform hospital rate of approximately one dollar and fifty cents per day is charged all members of the Guild, in addition to such special charges as may be incurred for extra service.

GENERAL REGULATIONS

Registration

ON the appointed Registration Days, in October, January, April, and June, each student must obtain a certificate of registration *in person*, at the Registrar's office.

Matriculation undergraduates may register after the appointed Registration Days and during registration week, upon payment of a special fee of two dollars; during the week following, the fee for late registration will be four dollars; after that the fee will be five dollars. Registration of undergraduates and specials will not be permitted later than one month after the beginning of instruction.

Study-List Card

At the Registrar's office the student receives a card for selection of studies for the quarter. This card, properly filled out, and approved for lower-division students, by the Committee on Lower Division Administration, for others, by the Major Department, must be filed with the Registrar at the time of registration; but late study cards will be accepted upon payment of a special fee of two dollars. Students registering late are admitted to particular classes only by permission of the instructor concerned. All work for which university credit is desired must be duly registered.

Enrollment in Classes

A student desiring to enter any class presents his certificate of registration to the instructor for enrollment at the beginning of each quarter. Whether the student is qualified for enrollment in a particular class is a question to be decided by the instructor in charge. In general, the prerequisites for taking any given course are noted under "Courses of Instruction."

Change of Studies

A student desiring to drop a subject once taken up, or to take up a new subject after the study card has been filed, must present to the appropriate committee a petition for such change, approved by the major department and by the instructors whose subjects are to be taken or dropped. In general, petitions so approved, and not involv-

ing courses required of lower-division students, if they do not give the student too many unit-hours, or too few unit-hours, and if presented within three weeks after the beginning of the quarter, are granted without question. If presented at a later time in the quarter they will be granted only for extraordinary reasons, and, where the taking up of new subjects is involved, only on payment of a special fee of two dollars for each course; if otherwise acceptable but presented after the close of the quarter, they will be granted only on payment of a special fee of four dollars for each course. In the case of petitions to drop subjects during the last four weeks of the quarter, action will be deferred until the close of the quarter.

Change of Major Subject

Petitions to change the major subject will be granted when approved by the departments in charge of both the old and the new subjects, the student being held to all the requirements of the new major subject.

Amount of Work

Fifteen hours per week of recitations or lectures or an equivalent in laboratory work, constitutes an average quarter's work. In general students may register for as few as *thirteen* or as many as *eighteen* unit-hours; but in the case of students doing outside work for self-support or otherwise, and where considerations of health are involved, special restrictions will be made upon recommendation of the medical adviser; and where conditions or failures have been incurred in the preceding quarter, not more than *fifteen* units may be registered unless by special permission of the Committee on Registration granted in advance. Permission to register for less than *thirteen* units may also be granted for special reasons; but registration for less than *ten* units will not ordinarily be accepted. Not more than eighteen units may be credited toward graduation for any quarter's work, unless, in exceptional cases, permission to register for additional units is granted in advance. Graduate students are not held to any special number of unit-hours, but registration will not ordinarily be permitted unless such students are prepared to devote at least half of their working time to University study. Petitions for irregular registration should be presented at the beginning of the quarter.

Every unit for which credit is given is understood to represent approximately, for the average student, three hours of actual work per week, through one quarter. Thus, in lecture or recitation work, for one unit of credit one hour per week may be allotted to the lecture or

recitation and two hours for preparation or subsequent reading and study on the part of the student; but if a less amount of time is allotted for preparation or subsequent reading or study, there shall be a proportionate decrease in the amount of credit. Where the time is wholly occupied with drawing, field, or laboratory work, or in the class-room work of conversation classes, three full hours per week through one quarter are expected of the student for each unit of credit; but where such work is supplemented by systematic outside reading or experiment under the direction of the instructor, such a reduction may be made in the actual drawing, field, laboratory, or class-room time as seems just to the department concerned.

Scholarship Grades

In reporting the standing of students at the end of each quarter the following grades are used: A, B, C, D, passing grades, corresponding in a general way to the terms, 'excellent,' 'good,' 'fair,' 'barely passed' ('+,'passed, without defining grade; '±,' conditioned; ('—'), failed). In grading classes, 'A' is considered as normally applicable to not more than fifteen per cent, 'B' and 'C' to thirty-five per cent each, and 'D' to fifteen per cent of the students of passing grade. (This distribution of grades is advisory, and is understood to admit of a certain degree of flexibility in the handling of small classes.)

Conditions and Failures

A student conditioned or reported incomplete in any subject may arrange with the instructor concerned for such supplementary examinations or study as will make good the deficiency; but such deficiency must be removed within one year after the condition is incurred, otherwise the condition or incomplete will be considered a failure. A student failing in any subject cannot receive credit for the portion in which the failure is incurred until the subject has been re-registered and taken over again in class. A condition or failure or withdrawal from class without permission of the Committee on Registration, limits the student to *fifteen* units the quarter following.

Scholarship Reports and Notices

Mid-quarter reports on scholarship are obtained from all instructors, and students reported as doing unsatisfactory work are notified of their deficiencies.

At the close of each quarter each department is expected to send to the Committee on Scholarship, on blanks to be furnished by the Registrar, a list of such students as, in its opinion, may not profitably

continue as major students in the department, together with information as to the reasons for such opinion, causes of unsuccess, qualifications for possible success in other lines of study, etc. (The Committee on Scholarship may require the withdrawal of such students from the University, or may permit re-registration in some other major subject, with the consent of the department concerned.)

At the middle and at the end of the quarter each department is notified of all serious deficiencies in scholarship affecting students whose major work is in that department.

When a student is seriously delinquent in scholarship, the fact is communicated to his parent or guardian.

Probation, Failure, and Disqualification

Standard work is obtaining fifteen units, and as many grade points as registered units, per quarter. This standard applies to each quarter and also as an average standard to be maintained on the entire record of the student.

At the end of the first or second quarter in the University a student is placed on probation who fails to obtain twenty-two counts (the sum of units and grade points.) He is considered as failing in his studies if he does not obtain twelve points, and is disqualified for further attendance at the University if he does not obtain seven counts. At the end of subsequent quarters less than seventeen counts will constitute 'failure' and less than twelve counts 'disqualification.'

At the end of the second and every subsequent quarter the student's entire accomplishment in units and grade points is compared with what would have been obtained had he done standard work. If he is above, at, or even slightly below standard his scholarship standing is considered normal. But if his deficiency becomes considerable the result is probation, and in serious cases disqualification.

A student in his first or second quarter is not disqualified or failed at mid-quarter; but if his record indicates less than twenty-two counts for the quarter probation results.

A student in the third or any subsequent quarter is disqualified if his mid-quarter record does not indicate seven counts and if he is also within ten counts of disqualification on his general average at the end of the preceding quarter. He is 'failed' if his record does not indicate twelve counts; on probation, if less than twenty-two counts.

Reinstatement is not granted within one calendar year after disqualification. A petition for reinstatement must show the accomplishment during the year of a reasonable amount of work of academic character (not necessarily in an educational institution) with such

success as to justify an expectation of creditable work in the University.

A student on probation may not take part in any inter-collegiate contest, not represent the University in any way, whether individually or in connection with any athletic, literary, musical, dramatic, or other organization. The Committee on Scholarship may by special action restrict other activities of a student on probation if they are impairing his University work.

Leave of Absence in Case of Delinquent Scholarship

Leave of absence will not generally be granted to a student on probation, nor to any student whose work during the current quarter is unsatisfactory, unless applied for at least four weeks before the end of the quarter.

From Special to Regular Standing

Special students may be entered in regular standing on passing examinations in the required number of entrance subjects, provided such examinations are passed not later than two years after matriculation. In place of entrance examinations, university work to the amount of seven units for each entrance unit may be offered in university subjects which are also included in the entrance group. (Entrance examinations are given by the College Entrance Examination Board in June of each year.)

University Credit for Extra Entrance Subjects

Credit toward graduation may be given for entrance subjects in excess of the number required for admission, provided such extra entrance subjects are also university subjects, and are successfully continued in the University within two years after matriculation, and provided the student's general University record is deemed proof of superior scholarship. In general, four units of advanced credit will be granted for each extra entrance unit representing elementary work in a given subject, and seven units of advanced credit for each extra entrance unit representing advanced work. Application for such university credit must be made within two years after matriculation. After matriculation additional entrance units may be offered only for the purpose of making up entrance deficiencies.

University Credit for Special Courses

Matriculated students on leave of absence may take work in other universities, usually without any restrictions other than those imposed

by the institution in question. But work undertaken in any Summer Session may be subject to special regulations, and must be approved by the major department and by the department in which work is to be taken.

Work of a special character taken outside of regularly scheduled classes, *in absentia* or during vacation periods, may be credited under the following conditions: (1) The work must be acceptable as part of the major requirements for the A. B. degree in the department whose courses it parallels or supplements, must be given necessary supervision and direction by such department and subjected to tests equivalent to those in regularly scheduled courses, and must be approved by the major department and by the Committee on Admission and Advanced Standing; (2) Such work may not be offered by students whose general scholarship record is unsatisfactory, nor to cover deficiencies due to poor scholarship; (3) Not more than forty-five units may be credited toward graduation for such special courses.

The last quarter's work of every candidate for a degree must ordinarily be taken in this University; but in special cases, students who have obtained at least one hundred and thirty-five units in resident work, and who have completed all major department requirements, may be exempted from this regulation and permitted to complete the required number of units under the provisions noted above.

WAR SERVICE CREDIT

War service in the Army and Navy of the United States, or in connection with special Government investigations, which involves technical or scientific training comparable educationally with regular courses in the University and measurable in terms of University units by departments in the University, may be credited toward graduation to the extent of not more than forty-five quarter units. (In this connection no credit shall be allotted to military drill, and not more than ten units to Military Science as distinguished from Engineering, Chemistry, and other professional studies.)

Departments concerned shall require whatever evidence may be deemed necessary for determining credit values, such as outlines, reports, certificates, examinations, etc. University credit is to be granted upon recommendation of the departments concerned and approval by the Committee on Admission and Advanced Standing.

War service credit may be granted without reference to the general restrictions noted above under "University Credit for Special Courses." But no such war service credit shall be taken as completing the re-

quirements for graduation of any student who has credit for less than one year (forty-five units) of resident study; nor shall this provision for war service credit be taken as waiving any of the major department requirements for the degree (except that students having credit granted for military training, which, together with work previously done, will amount to one hundred and eighty units, with the required number of grade points, may be graduated without meeting the specific requirements of any degree).

Advanced Credit

Students from institutions of equivalent rank, who maintain a satisfactory record after admission, may expect to receive the same standing as at the former institution, except that no such student can be given more than three years' advanced credit (one hundred and thirty-five unit-hours toward graduation), and that differences in standard of entrance preparation will be taken account of. Every candidate must present a full certified transcript of his college record, including entrance credit, and a letter of honorable dismissal.

Recommended graduates of approved State Normal Schools where the normal training has been preceded by a full four years' high school course, or where high school and normal school course together cover six years' work, may ordinarily be granted an advanced credit of sixty-seven units; in the case of California State Normal Schools, beginning with the 1921 graduating classes, this advanced credit may be increased to ninety units, provided, in the judgment of the Committee on Admission and Advanced Standing, the courses taken by the student are substantially equivalent to the work of the lower division of the University.

Advanced standing for work done before matriculation will generally be given only when certified as having been completed in some institution of recognized collegiate rank, except as provided above for extra entrance units, or, in particular cases, to recommended graduates of approved State Normal Schools. But in special cases permission may be given by the Faculty to receive credit on examination for work equivalent to regular University courses. Application for such examinations, with satisfactory evidence of the work accomplished, must be presented to the Committee on Advanced Standing. Applications for advanced standing on the basis of work done before entering the University must be made within two years after matriculation.

Graduate Standing

Admission to technical graduate standing does not imply admission to candidacy for an advanced degree (for the conditions of such candidacy

see p. 102). If graduates of other universities desire to become candidates for the baccalaureate degree, the question of units required for graduation may be waived, upon approval of the Committee on Admission and Advanced Standing, and the degree conferred on the satisfactory completion of not less than forty-five units of university work and the fulfillment of all major and minor requirements. Graduate students not candidates for any degree, may be permitted, upon the approval of the major department, to undertake such work as their previous training seems to warrant.

Leave of Absence

A student desiring to leave the University for a brief time should apply to the Committee on Registration. If leave of absence is desired on account of sickness, the petition must be indorsed by the medical adviser. A leave of absence is merely a justification of the absence and not a relief from the work that has been missed. A leave of absence is usually necessary only in case of interrupted work; a student in good standing absent one or more quarters may re-enter at the beginning of any quarter without formal petition.

Honorable Dismissal

An honorable dismissal means that the student is permitted voluntarily to withdraw from the University and is commended to the favorable consideration of any institution he may wish to enter. An honorable dismissal may be granted upon written application to any student not under discipline for misconduct.

Conduct of Students

The Committee on Student Affairs exercises the authority of the University over all students individually with respect to personal conduct, and, with the exception of athletic and debating teams, over student organizations which bear the name of the University, or which represent the University in non-academic activities, and, in general, assumes such measure of authority over non-academic organizations of students as may be needful to safeguard the general good name and well-being of the University community.

Individual or collective student enterprises, using the University name, which involve the absence of the participants from the University, must receive the official sanction of the Faculty Committee concerned.

In the government of the University the largest liberty consistent with good work and good order is allowed. Students are expected to show both within and without the University such respect for order,

morality, personal honor, and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University.

In 1908 the Board of Trustees of the University provided that in all future rentals or leases of houses as fraternity chapter houses it shall be expressly stipulated that no intoxicating liquors of whatever kind shall ever be sold or used on the premises. The Trustees also by formal resolution requested the Academic Council to prohibit the use of liquor in fraternity chapter houses, student club houses, and other student lodgings.

This action of the Board of Trustees is in harmony with the instructions given by the Academic Council to its Committee on Student Affairs, and defines the policy of the University. Prohibition of the use of liquor extends to all student lodgings whether on the campus or elsewhere. The University assumes that the act of registering as a student implies full acceptance of this policy.

Student Control

In 1911-12 the Faculty Committee on Student Affairs entered into an agreement with the University Conferences by which responsibility for the government of the students and for maintaining University standards was assumed by the men and women of the University. This delegation of responsibility, temporarily recalled, for men, in 1918, was resumed in 1919-20, under an agreement between the President and the men of the University. Under this agreement the responsibility for maintaining a high standard among the men students is assumed by the senior class. The Men's Student Council is responsible for the enforcement of University rules governing student conduct, all actions of the Council being submitted directly to the President for sanction or disapproval.

University Health Control

The University exercises an advisory control over student health affairs through the Committee on Public Health.

Every student upon entering the University is required to report for a brief examination. General health and evidence of effective vaccination are the important factors in the examination. Any condition which may place a limitation on the amount or kind of work planned by the student may be discussed with him or made the subject of a report to his major department or to the Committee on Registration.

Students intending to train for any of the athletic teams, or to reg-

ister for gymnasium work, are required to pass a careful physical examination at the beginning of each quarter.

VACCINATION

Not later than three weeks after the day of registration every student must file with the Committee on Public Health a certificate, signed by the vaccinator, who must be a duly licensed and practicing physician, giving exact dates of vaccination, and showing either successful vaccination within seven years, or unsuccessful vaccination twice within the past twelve months.

Non-compliance with these requirements will result in a fee of two dollars after three weeks, and an additional fee of four dollars after four weeks, and cancellation of registration after five weeks from the day of registration.

Certificates are to be filed at the Registrar's Office. They will be returned upon request. "Conscientious objections" will not be recognized as exempting anyone. Unavoidable delay, or failure to secure a satisfactory certificate, will not exempt anyone from the fine.

(It is advised that candidates comply with this requirement before coming to the University, and that vaccination certificates be sent in advance by mail. Blank certificate forms may be obtained on application to the Secretary of the Public Health Committee, at the Registrar's Office.)

"Immunity Reaction" will be considered equivalent to one unsuccessful try. Only "vaccinia" will be accepted as successful vaccination.

DEGREES AND TEACHING CREDENTIALS

CANDIDATES may be presented for graduation in January, April, June, and October.

No degree will be conferred upon any person who has not spent at least one year in resident study at the University. No honorary degrees are given.

Lower Division Requirements

The following requirements must be met by lower-division undergraduates. (In October, 1920, these requirements will apply only to freshmen and other entering students with less than thirty units advanced credit.)

SUBJECT REQUIREMENTS

Six units in English composition, to be taken during the second year in the University. (A course in elementary English composition (English A) is prescribed for first-year undergraduates who do not satisfy the matriculation test.)

Twenty-two units in one foreign language, or fifteen units each in two foreign languages. (This requirement may be anticipated in the high school, its equivalent being three entrance units in one foreign language or two entrance units each in two foreign languages.)

Nine units in a biological science, and nine units in either Physics or Chemistry. (One of the sciences may be anticipated in the high school, its equivalent being one entrance unit in a biological science, or in Physics or Chemistry, or in general science.)

Nine units in American history and nine units in general history. (One of the history requirements may be anticipated in the high school, its equivalent being one entrance unit in history.)

Twelve units in Problems of Citizenship, to be taken during the first year in the University.

All undergraduates are required to devote three schedule hours per week, for the first six quarters, either to physical or military training. (Students entering with advanced standing may offer equivalent training in other colleges or universities in whole or partial fulfillment of this requirement.)

GROUP REQUIREMENTS

During each of the first two years the student is required to take nine units in each of the following groups: (1) language and literature (English and foreign), formative art, (2) natural sciences, mathematics; (3) social sciences (including history, political science, economics, philosophy, and education).

A particular course may count toward the fulfillment of both subject and group requirements.

Bachelor of Arts

The degree of Bachelor of Arts (A. B.) is conferred upon candidates who have fulfilled the following requirements:

(1) The completion of one hundred and eighty (quarter) units of university work, including the required lower division courses, together with the required six quarters physical or military training (six units). (A special student who has completed two hundred and twenty-five units of university work, including all lower division and major requirements, and whose general university record is deemed proof of superior scholarship, may become a candidate for graduation on approval of the Committee on Admission and Advanced Standing. Petitions to this end will not be considered by the Committee until after the student has completed one hundred and eighty units of university work.)

(2) The acquirement of as many grade points as there are units registered for on the candidate's record card. A unit of credit passed with a grade of 'A' counts three grade points; with a grade of 'B,' two grade points; with a grade of 'C,' one grade point; with a grade of +, one grade point; with a grade of 'D,' no grade points. A 'condition' removed does not count grade points, no matter what the final grade may be. (Advanced credit for work in other institutions counts one grade point for each unit of credit.)

(3) The completion of the major subject requirements as prescribed by the Major Department.

The recommendation of the Major Department is necessary to graduation.

Forty-five units constitute a normal year's work (see p. 91), but the ordinary class divisions (freshman, sophomore, junior, senior) are not recognized by the University. The degree is conferred whenever the requirements are met, without regard to the time spent, except that at least forty-five units (including, except in special cases, the last fifteen) must be completed in this University.

The work of the first two years is made up of subject requirements, group requirements, and electives under the supervision of the Committee on Lower Division Administration.

At the beginning of the junior year each student selects as a Major Subject the work of some one department. The Major Department has the authority to prescribe not more than sixty units in the Major Subject (exclusive of elementary courses in the Major Department which may be offered for entrance). The Major Department shall also recommend such other courses as it may consider desirable, and shall exercise an advisory supervision over the student's curriculum from quarter to quarter. It shall be considered a general principle of University policy, to be departed from only in exceptional cases, that at least ninety of the one hundred and eighty units required for the degree be taken outside of the Major Department.

In applied science the Major Department may prescribe so much of the entire one hundred and eighty units as it shall deem essential to the technical or professional requirements of the major subject.

Within these limitations the work in all departments is elective, and the student may freely choose any course which his previous studies have prepared him to undertake.

(A student in regular undergraduate standing who does not intend to become a candidate for the A. B. degree, may choose, with the approval of the major department, any course in the University which his previous training has prepared him to undertake.)

Bachelor of Laws

The degree of Bachelor of Laws (LL.B.) is conferred upon candidates who have satisfactorily completed two years (ninety units) of non-professional study in the pre-legal curriculum and three years of professional study in the law school.

Candidacy for Advanced Degrees

Candidates for advanced degrees must be registered in the University and must file with the Registrar an application for candidacy. In the case of candidates for the degree of Master of Arts or Engineer this application must be accompanied by a programme of study approved by the department faculty concerned. The approval of this programme of study by the Committee on Graduate Study is necessary for admission to candidacy for the degree. Only under exceptional circumstances will a programme of work be approved by the Committee which is received later than the beginning of the second quarter pre-

ceding the one in which the degree is to be taken. It is advisable that such programme be filed as early as possible in the student's course. Candidates for the degree of Doctor of Philosophy, to gain admission to candidacy, must file in the same manner their programme of study, and obtain the approval of the programme by the Committee on Graduate Study; they must also obtain the final approval of the Committee as set forth below in Section 5 of the conditions governing the granting of that degree. Advanced degrees will be conferred only upon the recommendation of the Committee on Graduate Study.

The Committee on Graduate Study interprets the requirement that statements of candidacy must be filed 'at the beginning of the quarter,' as meaning 'within the first six weeks of the academic year.' In no case will the degree of Master of Arts be conferred in less than three quarters after formal admission to candidacy. Statements once submitted must be kept on file and cannot be withdrawn even after substitutes have been filed and accepted. Candidates for the degree of Juris Doctor and Doctor of Medicine are exempt from the requirement that a programme of study shall be filed a definite time in advance.

Master of Arts

The degree of Master of Arts (A. M.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion in residence, of one year of work beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, and the passing of such general or final examination as the major department may require. A longer period of residence will be required of candidates who are inadequately prepared or who devote less than the normal amount of time to their graduate course. Work may be done in connection with the regular courses of instruction, or as research, independently of them. The programme of study must form a consistent plan of work pursued with some definite aim whether it lies wholly in a single department or field of study, or in more than one. At least two-thirds of a year's work must be devoted to advanced or graduate work in the major study or in intimately allied subjects.

A candidate for the degree of Master of Arts must display ability to do independent work.

A report upon the character of the work done shall be made by each instructor under whom a candidate is registered.

The Master's thesis, bearing the approval of the instructor under whose supervision it was prepared, must be submitted to the Committee

on Graduate Study by the date on which instruction closes for the quarter in which the degree is taken; upon acceptance, it shall be suitably bound and placed in the University Library.

The Committee on Graduate Study requires that the original, not a carbon copy, of the Master's thesis, written on paper of standard size and weight, be submitted and filed. The title-page shall be of the form prescribed by the Committee.

Engineer

In the Departments of Applied Science the professional degree of Engineer is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion, in residence, of one year of professional study beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, showing ability to do independent work. Upon the recommendation of the Department, and in order to permit the carrying on of advanced work with equipment or under conditions not available at the University, the requirement of residence may in part be waived.

The special regulations stated above for the degree of Master of Arts apply also to the degree of Engineer.

Juris Doctor

The degree of Juris Doctor (J.D.) is conferred on students who have previously received the academic degree of Bachelor of Arts, or an equivalent degree elsewhere, upon the completion of the three years' professional law course. The first year of the professional law course may be taken by candidates for the A. B. degree.

Doctor of Medicine

The degree of Doctor of Medicine (M. D.) is conferred on students who complete the five years' course in Medicine (which includes the interne year), based upon the three years' pre-medical course as laid down by the University.

Doctor of Philosophy

The degree of Doctor of Philosophy (Ph. D.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion of at least three years of graduate work, beyond the baccalaureate requirements of the department in which the degree is sought, under the following conditions:

1. At least the last year of study must be spent in residence at this University.

2. At least one year prior to the date when the degree is sought, the candidate must show a reading knowledge of French and German in his special literature. The faculty of the department in which the major work is taken determines whether this requirement has been met.

3. The programme of study must include one major subject and one or two minors. The minor subject or subjects shall represent approximately one-third of the programme of study; except that such minor subjects may be waived upon the recommendation of the major subject department, if approved by the Committee on Graduate Study, when the breadth and extent of the candidate's training appear to the Committee to justify such a course.

4. The candidate must present a thesis at least six weeks before the close of the quarter in which the degree is sought, in form and content acceptable to his department and to the Committee on Graduate Study. Before the degree is conferred he must either (*a*) deposit one hundred printed copies of the thesis in the University Library, or (*b*) deposit an original typewritten copy of the thesis with the Librarian, and at the same time either deposit the sum of $50 or file an acceptable surety bond in the sum of $100 with the Treasurer of the University, as a guarantee that the thesis will be printed and the required number of copies deposited within two years of the date of receiving his degree.

In case the candidate can present evidence that his thesis, or an acceptable portion of it, has been accepted for publication by a reputable scientific journal or in the proceedings of a learned society, and that publication within two years has been assured, the degree may be conferred after he has deposited, together with the typewritten copy of the thesis, a sufficient sum to cover the cost of one hundred off-prints from the journal or volume in question.

If one hundred copies of the thesis are deposited within the requisite period of two years, the candidate's deposit or bond will be returned to him; if not, the Committee on Graduate Study may use the sum forfeited, for the printing, by the University, of the thesis or of such portion as is deemed best.

When the thesis is of unusual length, and at the same time is of such a character that a representative portion, of independent value, can be excerpted, printed copies of this portion may be deposited with the Librarian, in place of the whole, with the approval of the depart-

ment concerned and the Committee on Graduate Study. In such cases the printed portion must amount to not less than twenty-four octavo pages, and must be accompanied by a statement indicating the nature of the entire thesis.

5. Final approval of candidacy must be obtained from the Committee on Graduate Study, not later than the close of the second quarter preceding the one in which it is proposed to take the oral examination. This approval will be based on the report of a Special Committee of seven members of the Faculty to be appointed by the Chairman of the Committee on Graduate Study, of whom one member shall be chosen from each department represented by the major and minor subjects of the candidate, and the other members (one of whom shall be designated as chairman) from the faculties of other departments. This special committee shall be appointed at the beginning of the last year of candidacy and shall consider and report (*a*) whether the candidate has pursued in a satisfactory manner the programme of study upon which the provisional approval of candidacy was obtained, as evidenced by the record of his studies and by such written work as he may wish to present for inspection; (*b*) whether the preliminary draft of his thesis, or such portion of it as may be deemed representative, gives promise of being completed satisfactorily as provided above; and (*c*) whether he is eligible, in respect of comprehensive grasp of his major and minor subjects, to be admitted to the final oral examination. The report will be based in part on a conference with the candidate ordinarily of not more than one hour's duration. The major and minor departments should also certify to the Special Committee the results of such comprehensive written examinations as can be conveniently set before the time of final approval of candidacy.

6. In addition to satisfying the requirements of major and minor departments, the candidate must pass a final oral examination by an examining committee of the faculty, conducted in the presence of such other members of the faculty as care to attend. This examining committee will consist of (1) the chairman of the Committee on Graduate Study, presiding; (2) the professors of the major subject department; (3) the professor or professors in charge of the minor subject or subjects; (4) two members of the Committee on Graduate Study whose departments lie nearest that of the major professor. The Committee may at its discretion invite other members of the faculty to participate in the oral examination.

Advanced Degrees in the Medical Department

The Divisions of the Medical Department are considered as equivalent to other departments of the University in respect to candidacy and requirements for the degrees of Master of Arts and Doctor of Philosophy, and all the foregoing regulations apply to these divisions and division faculties as to departments and department faculties, with the following modifications and limitations:

1. Candidates for these degrees must have received the degree of A. B. at Stanford, or an equivalent degree elsewhere, and must have completed all requirements for admission to the Department of Medicine, and such other requirements as each division faculty may prescribe.

2. Time spent in candidacy for the degree of Master of Arts or Doctor of Philosophy will not be counted toward the degree of Doctor of Medicine.

3. Candidates for these degrees in the divisions of Medicine, Surgery, and Obstetrics and Gynecology, must have received the degree of Doctor of Medicine.

TEACHING CREDENTIALS

Teachers' certificates are issued by County, and City and County Boards of Education under the provisions of Section 1519, subdivision 5 (*a*), Section 1775, subdivision 1 (*a*), and Section 1792 of the Political Code of California. The State Board of Education of California, in accordance with the state law, has empowered the University (through the School of Education) to grant recommendations for teachers' certificates, valid in this state, and of four grades: (1) Elementary, (2) Intermediate, (3) High School, and (4) Special. Preliminary certificates, valid only for cadet teaching in connection with Education course 28, also are granted. These are valid for teaching and are granted under the following conditions:

1. For the Elementary-School Certificate

(Valid for teaching in the eight grades of the elementary schools.)

1. The possession of a Bachelor's degree from this University.

2. The completion of at least 15 quarter units of college work in each of three of the following departments or lines of work: English, some other language than English, Graphic Art, History and Economics, Mathematics, Physical Science, Biological Science, General Science.

3. The completion of at least 18 quarter units of work in the Department of Education, which must include: (*a*) Practice in Teaching and School Management, 6 units (courses 27 and 28 will satisfy this requirement); (*b*) Elementary Education, 6 units (courses 10, 50, and 51 may be used to satisfy this requirement); (*c*) Additional work in Education, 6 units (courses 1, 2, 3, 12, 19, 37, 46, and 49 are suggested as desirable courses from which to select, though other courses may be taken if desired).

2. For the Intermediate-School Certificate

(Valid for teaching in the seventh, eighth, or ninth year of the public schools of California, when organized as intermediate schools.)

1. The possession of a Bachelor's degree from this University.

2. The completion of at least 23 quarter units of approved work in the Department of Education, in the case of non-normal-school graduates, and of at least 8 units, in the case of normal-school graduates.

3. The completion of additional work in subject-matter courses of not less than the following:

(*a*) For Normal-School Graduates, either of California State Normal Schools or of normal schools elsewhere which have been accredited by the State Board of Education as equivalent, not less than one year (45 quarter units) of college work, of which at least 30 units shall have been in two of the following departments or lines of work: Latin, German, French, Spanish, English, History, Mathematics, Physical Science, Biological Science;

(*b*) For non-Normal-School Graduates who possess a valid California Elementary-School Teacher's Certificate, not less than two years (90 quarter units) of college work, of which one-half (45 units) shall have been in three of the departments or lines of work listed above under (*a*).

3. For the High-School Certificate

(Valid to teach in the high schools or elementary schools, or to do supervisory work, in California. In all cases the candidate must hold a Bachelor's degree from some institution requiring eight years of high-school and college work for such degree, must satisfactorily complete the required work in two Teaching-Majors, or one Teaching-Major and two Minors, and in addition must complete in this University a varying amount of graduate study, to be determined by the following conditions:)

GROUP I: STANDARD GROUP

1. One year (at least 39 quarter units) of graduate study, which shall include one full-year course of advanced or graduate work (not less than 6 units) in at least one subject in which recommendation is sought.

2. At least 23 quarter units in Education, including the following courses: (*a*) a course in School and Classroom Management (2 units); (*b*) work in actual practice of teaching, with conferences (6 units); (*c*) a Teacher's Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given in the institution and be accepted or listed under the work in Education (4½ units maximum for all such courses); (*d*) a course in Secondary Education, presenting particularly the purpose and attainable goals of high-school work (3 units); (*e*) such other courses relating to the theory, function, and administration of public education, as are needed to complete the required 23 units.

3. Candidates who have taught or been engaged in school supervision in this or any other state, and who present credentials showing that they have done so with reasonable success, may be excused from six of the twenty-three units of Education represented by the practice teaching, and may also be allowed to substitute other work in education for the course in School and Classroom Management. All students desiring such exemption must make application on Form B, to be obtained at the office of the Secretary of the School of Education, Room 52.

GROUP II: EXPERIENCED-TEACHERS' GROUP

Teachers who have had at least seventeen months of satisfactory experience in elementary or secondary schools, in this or other states, may be exempted, if their application for such exemption is approved by the School of Education, from as much as one-half of the year of graduate work and from as much of the required work in Education as their experience seems to warrant. In any case all such persons will be expected to meet at least the following requirements:

1. Two quarters (at least 26 quarter units) of graduate study, which shall include not less than 4 units of advanced or graduate work in at least one subject in which recommendation is sought. Students who can arrange their graduate work so as to be present during the summer quarter may satisfy the resident requirement by one and a half quarters (20 quarter units), if other requirements can also be met in this time.

2. Such number of satisfactory units in Education, including (*a*) Secondary Education (3 units) and (*b*) a Teacher's Course in at least one subject in which the candidate expects to be recommended for certification, as may be determined after consideration of the individual case. Application for exemption from Education requirements on the basis of teaching experience must also be made on Form B.

GROUP III: NORMAL-GRADUATE GROUP

1. Graduation from an approved normal school.

2. Two quarters (at least 26 quarter units) of graduate study, which shall include not less than 4 units of advanced or graduate work in at least one subject in which recommendation is sought (with permission to reduce this to one and a half quarters as under Group II).

3. At least 8 quarter units in Education, including (*a*) Secondary Education (3 units); (*b*) a Teacher's Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given in the institution and be accepted by and listed under the work in Education (4½ units, maximum for all such Teacher's Courses). In lieu of Teacher's courses other courses in Education must be taken to make up the required eight units.

GROUP IV: SPECIAL NORMAL-COURSE GROUP

1. Two quarters (at least 26 quarter units) of graduate study, which shall include not less than 4 units of advanced or graduate work in at least one subject in which recommendation is sought (with permission to reduce to one and a half quarters as under Group II).

2. At least 8 quarter units in Education, including (*a*) Secondary Education (3 units); (*b*) a Teacher's Course in at least one subject in which the candidate expects to be recommended for certification, if such course be given and be accepted by and listed under the Department of Education (4½ units, maximum for all such courses). In lieu of Teacher's Courses other courses in Education must be taken to make up the required eight units.

3. One half-year (preceding or following the two quarters of graduate work) in any California State Normal School which offers a special half-year (or two terms) of full-time instruction, especially selected for college graduates preparing for high-school certification in California, and approved by the State Board of Education.

4. For Special Certificates

A Special Certificate of Secondary grade, authorizing the holder to teach only such branch or branches and in such grades as are named in such certificate (manual and fine arts, technical arts, household arts, commercial subjects, physical culture, music) may be granted as follows:

1. To recommended candidates who have had at least four years' instruction beyond that required for graduation from a high school maintaining a four-year course in advance of the eighth grade, or who have had an equivalent amount of training.

2. At least one-half (90 quarter units) of this four years of collegiate instruction must have been devoted to study or work in the special subject or subjects in which application for certification is made, and in such subjects as are strictly supplementary thereto, as arranged and approved by the School of Education of this institution. (See *Annual Announcement of the School of Education,* Part VII.)

3. At least 18 of the 90 quarter units required to be given to the special subject or subjects must have been devoted to the study of the pedagogical subjects suited to the training of a secondary-school teacher; at least one-third of which (6 units) must have been devoted to practice teaching, including methods of instruction in the special subject or subjects, under competent supervision. Ordinarily courses 20, 27, and 28 must be included.

4. Time devoted in the secondary-school period to study or work in the special subject or subjects in which the candidate desires certification may be substituted at the rate of half-time for similar studies or work in the collegiate period. Such substitution, though, shall not exceed one-half of the total time required in the special subject or subjects. One year's successful experience in teaching may be substituted for half of the required pedagogical work, and two years' teaching experience may be substituted for the entire pedagogical requirement; but all such substitutions are subject to determination by the School of Education in individual cases. Application for such substitutions must be made to the School of Education.

5. For Preliminary Certificates

Recommendations for Preliminary Special or Preliminary Regular High School Teacher's Certificates, authorizing the holder to do cadet teaching, without salary, in any secondary school in the county, are also granted to those enrolled for Practice in Teaching, Education 28.

Those wishing to do practice teaching in elementary schools secure the recommendation for such preliminary certificates through the State Normal School at San Jose.

Application for a Teaching Credential

1. When any student has spent the requisite time in study at this University, and has completed the prescribed program of studies in Majors and Minors for the High School Teacher's Recommendation, or the special course of study required by the School of Education and by the regulations of the state for an Elementary-School, an Intermediate-School, or a Special or Vocational Type of Teacher's Recommendation, or the requirements for recommendation for certification in some other state, such student shall make application for the type of Recommendation for a certificate desired and leave such application with the Secretary of the School of Education, in Room 52. The Recommendation desired shall be granted only after application has been approved by the Committee on Credentials and Degrees of the School of Education.

2. All Teacher's Recommendations for the High School Certificate in California hereafter issued will state on their face the particular Majors and Minors which the holder thereof has made special preparation to teach, and holders of the old form of general recommendation will be permitted to have their preparation and teaching experience adjudged in terms of the new standards for Majors and Minors, and to exchange the old forms of recommendation for the new.

3. Whenever the holder of any Recommendation for either a regular or a special High School Certificate, specifying Majors and Minors or special subjects on its face, may by further study build up Minors into Majors, or add new Majors or Minors or special subjects, then such addition shall be recorded on the face of the Teacher's Recommendation.

APPOINTMENT OFFICE

The University has established in the President's Office an Appointment Office, the duties of which are to assist students and graduates of the University to obtain permanent employment and promotions, either in the teaching profession or in any other line of work for which they have prepared themselves. The office is in charge of a Secretary who aims to secure and keep on file a complete record of the scholarship, experience, and personal qualifications of each candidate for a position. These records are confidential and intended only for the use of school officers, or of professional or business men who have

positions to be filled. Copies of these records will be mailed to such officials, at their request, or at the request of the candidate concerned. Whenever notices of vacancies are received, the Appointment Secretary will recommend the best available person for a given position. Candidates for positions, when asking that copies of their recommendations be mailed, should inform the Appointment Secretary definitely as to the subjects to be taught, or the work to be done, and the time when work is to begin. The University reserves the right of refusing to extend its coöperation to candidates who apply for positions for which they are manifestly unfit.

The Appointment Office will be glad to be informed promptly of present or prospective vacancies in positions for which college-trained men or women are eligible.

Blanks for registration may be obtained of the Appointment Secretary. Registration must be renewed yearly, preferably during February or March.

The only charge in connection with this service is the cost of typing and mailing credentials.

Communications should be addressed to the Appointment Secretary, Stanford University, California.

COURSES OF INSTRUCTION

(The asterisk (*) indicates that the course is repeated for the quarter named; otherwise courses announced for more than one quarter are continuous.)

ANATOMY

Arthur William Meyer, Frank Mace McFarland, Professors.
Clara S. Stoltenberg, Associate Professor.
Charles C. Macklin, Acting Associate Professor (summer quarter).
Edgar Davidson Congdon, Assistant Professor.
Emily M. Bartlett, Assistant.

Required Courses

1. General Histology and Microscopic Anatomy.—A course dealing with the elementary structure and vital activities of the animal cell, the histology and development of the tissues and their combination into the organs of the Vertebrates, with especial reference to the Mammalia. Elementary histological technique is taught during the course. Open to students who have had 90 units of work, including a year's biological training, or its equivalent. (Three lectures and fifteen laboratory hours per week.)

Autumn, *winter, and *spring quarters (McFarland)
(8 units, autumn) Lec. MWF 9, Lab. MWF 10-12, TTh 9-12, W 1:05-4:05; (4 units, winter) Lec. by arrangement, Lab. WThF 1:05-4:05; (4 units, spring) Lec. by arrangement, Lab. MTW 1:05-4:05

2. Osteology.—Students will be expected to familiarize themselves thoroughly, on their own initiative, with the surface anatomy of the bones of the skeleton. This individual work will be supplemented by the laboratory study of special aspects of the subject under the supervision of instructors.

3 units, winter quarter (Meyer, Congdon) Lab. TF 9–11; Lec. TF 11

3-4-5. Dissection of (3) the Head, Neck, and Thorax; (4) the Upper Extremity; (5) the Abdomen and Lower Extremity.—These courses are given simultaneously throughout the year and may be begun at any time. No one will be assigned to less than one of the above parts nor will credit be given for less, save by special arrangement.

8, 3, 6 units (respectively), autumn, *winter, and *spring quarters (Meyer, Congdon) (autumn) Lab. MT 1:05-4:05, WF 9-12; (winter) Lab. MTWThF 9–12; (spring) Lab. MTWThF 1:05–4:05

6. Neurology.—A study of the structure of the central nervous system of man by means of dissections and prepared slides, supplemented by dissections of the central nervous system of other mammals.

5 units, autumn and *spring quarters (Stoltenberg) (autumn) Lec. ThF 8, Lab. WThF 1:05-4:05; (spring) Lec. TTh 8, Lab. TTh 9-12, F 1:05-4:05

Optional and Advanced Courses

7. Cytology.—The course deals with the structure and functions of the animal cell with special reference to the reproductive processes. Lectures, laboratory work, and assigned reading. Open to those who have had courses in Histology, Embryology, and Microscopic Technique.

3 to 5 units, winter quarter (McFarland) MTWThF afternoons

8. Special Courses.—Advanced Courses in Histology, Histogenesis, Microscope Anatomy, Cytology, or Microscopic Technique will be planned to suit the needs of individual students. Open to those who have had courses in Histology and Embryolgy.

2 to 5 units, winter (or spring) quarter (McFarland) MTWThF afternoons

9. Topographical Anatomy.—The course consists of the laboratory study of frozen sections of fetal, infantile, and adult cadavers made in various planes, and of dissected and specially injected preparations, supplemented by models and atlases, and by recitations. It is suggested that students who can afford the time supplement courses 3, 4, and 5 by the respective portions of course 9 immediately on completing the dissection of a part. Open to students who have completed courses 1, 2, 3, 4, and 5.

2 to 5 units, winter quarter (Meyer) By arrangement

10. Anatomy of the Sense Organs.—A study of the sense organs by means of dissections and prepared slides, supplemented by models and prepared dissections.

2 to 4 units, autumn and *winter quarters (Stoltenberg) MTW 1:05-4:05

11. Morphogenesis.—Factors influencing animal form and structure are considered. Especial attention is given to man and mammals. Lectures and assigned reading. Elective.

2 units, winter quarter (Congdon) By arrangement

12. Human Embryology.—This course will be offered as soon as adequate provision can be made. Course 13 in the Department of Zoology is a prerequisite.

13. Investigation and Special Work.—The facilities of the laboratory are always at the disposal of properly qualified students or physicians who desire to undertake the investigation of some problem in gross or

microscopic anatomy or in embryolgy. This work must be arranged for individually, but may begin at any time.

[**Embryology.**—Development of the chick through the first three days of incubation. (Course 13 in the Department of Zoology.)
5 units, winter quarter (PRICE) MTWThF afternoons]

REQUIREMENTS FOR ADVANCED DEGREES.—In addition to the requirements published in the University *Register* and the *Announcement of the School of Medicine,* students desiring to be admitted to candidacy for the degree of Master of Arts in Anatomy must have satisfactorily completed one year's work in histology and microscopic anatomy, at least one quarter of embryology, and possess a knowledge of laboratory technique adequate for the investigation to be undertaken. For admission to candidacy for the degree of Doctor Philosophy a reading knowledge of both French and German is further required.

DEPOSIT FEES.—A deposit of $2.50 for microscopes and of $10 to cover damage to or loss of bones, is required of all students registering in gross and in microscopic anatomy. This sum, less charges for damage or loss, is refunded at the close of the academic year, except in the case of students discontinuing work. These may obtain the refund at the end of the quarter. Students who are not registered in medicine are charged a fee of $15 for each of courses 3, 4, and 5, and $5 for each of the other courses.

APPLIED MATHEMATICS

LEANDER MILLER HOSKINS, HALCOTT CADWALADER MORENO, SIDNEY DEAN TOWNLEY, Professors.
WILLIAM ALBERT MANNING, Associate Professor.
HEINRICH WILHELM BRINKMANN, Instructor.

The courses in Applied Mathematics are planned primarily to meet the needs of students in Engineering. The aim is to make these courses practical in the sense of furnishing thorough drill on fundamental principles and much practice in their application. Emphasis is laid upon accuracy and system in the solution of numerical problems. Students whose training in arithmetical work has been deficient, or who are otherwise inadequately prepared, or who lack aptitude for mathematical study, cannot pursue these courses successfully.

Students majoring in any engineering department should have en-

trance credit in the preparatory subjects of algebra (one and one-half units), plane and solid geometry, and plane trigonometry. This preparation is required for admission to any of the following courses except Descriptive Astronomy.

The mathematics regularly required of students in Engineering consists of courses 1, 2, and 3. Each of these courses runs two quarters, 5 unit-hours per quarter, and they will regularly be taken in the order 1*a*, 1*b*, 2*a*, 2*b*, 3*a*, 3*b*. It is possible, however, to take 2*b* and 3*a* simultaneously, but this can be permitted only in the case of students having thoroughly satisfactory records in the preceding courses.

1. Elementary Analysis.—This course presupposes a familiarity with the elements of algebra and trigonometry, and is designed to strengthen the command of the student over these subjects and to give him a working knowledge of the method of coördinate geometry. Readiness in the application of the fundamental principles of algebra, trigonometry, and geometry to the solution of numerical problems is of fundamental importance to the engineer, and this side of the work is emphasized throughout the course.

1a. First half of course 1.
5 units, autumn quarter (MANNING, MORENO, BRINKMANN)

1b. Second half of course 1.
5 units, winter quarter (MANNING, MORENO, BRINKMANN)

2. Calculus.—An elementary course in Differential and Integral Calculus, in which emphasis is laid on fundamental principles and simple applications.

2a. First half of course 2.
5 units, spring and *autumn quarters (MORENO, MANNING, TOWNLEY, BRINKMANN)

2b. Second half of course 2.
5 units, autumn and *winter quarters (MANNING, HOSKINS)

3. Theoretical Mechanics.—An elementary course, covering the fundamental principles of Statics, Kinematics, and Kinetics, restricted mainly to coplanar forces and to plane motion of particles and of rigid bodies. An elementary treatment of Graphic Statics is included. The course is designed as preparation for the courses in Applied Mechanics taken by students of Engineering, but is open to all whose preparation includes the equivalent of courses 1 and 2.

3a. First half of course 3.
5 units, winter quarter (HOSKINS) MTWThF 10

3b. Second half of course 3.
5 units, spring quarter (HOSKINS) MTWThF 10

4. Theoretical Mechanics.—A more advanced course, presupposing course 3 or its equivalent. (Given if there is sufficient demand.)
5 units, autumn quarter (HOSKINS) Hours to be arranged

8. Engineering Mathematics.—This course is designed to meet the needs of students in Electrical Engineering, and should be taken by those intending to take course 10 in Electrical Engineering.
5 units, autumn quarter (MORENO) By arrangement

9. Graduate Courses.—Advanced courses in Theoretical Mechanics, Hydromechanics, Theory of Heat, Theory of the Potential Function, Theory of Elasticity, or other subjects, may be arranged for students having the requisite mathematical training.

[**Advanced Electrotechnics.**—See announcement of the Department of Electrical Engineering, course 10.
4 units, winter quarter (RYAN, MORENO)].

ASTRONOMY AND GEODESY

The course in Descriptive Astronomy is designed especially to meet the needs of students who have time for only a general knowledge of the subject. Course 11 is designed especially for students of Engineering and Geology who desire a working knowledge of practical astronomy. The other courses are intended for students of Mathematics or Civil Engineering who wish to prepare themselves for geodetic work.

10. Descriptive Astronomy.—This course consists of a general survey of the various branches of astronomy, including a study of the celestial sphere, the bodies of the solar system, comets, the fixed stars, and other heavenly bodies. The treatment is non-mathematical.
4 units, autumn quarter (TOWNLEY)

11. Practical Astronomy.—The theory and practice of the determination of latitude, azimuth, time, and longitude, with sextant and engineer's transit. Intended especially to meet the requirements of students of Civil Engineering. Course 1, differential calculus, and surveying are prerequisites.
3 or 4 units, spring quarter (TOWNLEY)

12. Advanced Practical Astronomy.—A continuation of course 11. Precise methods of determining time, latitude, etc., by means of the universal instrument.
Any quarter (TOWNLEY) Hours and units by arrangement

13. Adjustment of Observations.—Theory of the method of least squares, with applications. Credit in course 2 or its equivalent is a prerequisite.

3 units, winter quarter (Townley)

14. Geodesy.—Study of the form and dimensions of the earth and the practical methods of geodetic work. Courses 11 and 13 are prerequisites.

3 units, autumn quarter (Townley) By arrangement

BACTERIOLOGY AND EXPERIMENTAL PATHOLOGY

Wilfred Hamilton Manwaring, Professor.
Charles Victor Burke, Edwin William Schultz, Instructors.
Georgina Spooner Burke, Lecturer.

Non-Medical Courses

A. Hygiene of the Infectious Diseases.—Non-technical lectures in Elementary Bacteriology. The application of bacteriological methods to the prevention and control of infectious diseases. Not open to first-year students.

1 unit, spring quarter (Schultz) Th 10

B. Anatomy and Physiology of Disease.—Non-technical lectures in Elementary Pathology. An elementary presentation of the fundamental, anatomical, and physiological changes in disease. Not open to first- and second-year students.

1 unit, spring quarter (Manwaring) T 10

C. Household Bacteriology.—A non-technical course designed primarily for nurses, teachers, and social workers. Not open to premedical students. Prerequisites: 90 units of University work. A knowledge of Elementary Chemistry is desirable.

6 units, summer quarter (G. S. Burke)
Lec. MW 1:30; Quiz F 1:30; Lab. TTh 1:30-4

Medical Courses

1. General Bacteriology.—Required medical course. An introductory course in bacteriological technique, dealing mainly with medically important non-pathogenic forms. Prerequisites: 150 units of university work (120 units for department majors), including Zoology 11, Anatomy 1, Chemistry 10 and *f*, or equivalents.

4 units, winter, *spring, and *summer quarters (Schultz)
Lec. T 8; Lab. TTh 8-11

1a. Bacteriological Chemistry.—Elective medical course.
1 unit, spring and *summer quarters (MANWARING) F 9

1b. Elective Quiz.
1 unit, winter, *spring, and *summer quarters (SCHULTZ) S 8

2. Pathogenic Bacteriology.—Required medical course. Prerequisites: Chemistry 16, *l*, Physiology 3, 4, and course 1, or equivalents.
6 units, autumn and *spring quarters (BURKE)
Lec. MW 8; Lab. M 8-11, T 8-12, Th 9-11

2a. Supplementary Inoculations.—Elective medical course.
2 units, autumn and *spring quarters (BURKE) By arrangement

2b. Immunity.—Elective medical course.
1 unit, autumn and *spring quarters (MANWARING) S 9

2c. Elective Quiz.
1 unit, autumn and *spring quarters (BURKE) S 8

3. Elementary Serology.—Elective medical course. Antitoxins, bacteriolysins, hemolysins, agglutinins, precipitins, opsonins, complement deviation, anaphylaxis, etc. The course must be preceded or accompanied by courses 2, *2a*, and *2b*.
6 units, autumn quarter (MANWARING) Lab. WF 8-12

4. General Pathology (a).—Required medical course. Continuous with General Pathology (*b*), Division of Pathology, San Francisco. The course is given from the experimental point of view and covers: circulatory disturbances, degenerations, pigmentations, acute inflammations, and regenerations. Prerequisite: course 2.
6 to 8 units, winter and summer quarters (MANWARING, SCHULTZ)
Lec. MW 9, Quiz F 9 Lab. MWF 10-12

4a. Supplementary Operations.—Elective medical course.
2 to 4 units, winter and summer quarters (MANWARING, SCHULTZ)
Lab. MW 1–4

4b. Histopathologic Technique.—Elective medical course.
2 units, winter quarter (SCHULTZ) By arrangement

4c. Pathological Physiology.—Elective medical course. Designed to accompany the introductory course in Physical Diagnosis.
2 units, winter quarter (MANWARING) Lec. TTh 9

5. Clinical Laboratory Methods.—Full-time work in the Clinical Laboratory, Lane Hospital, San Francisco. Prerequisites: courses 2, 3, and 4, or equivalents. Limited to two students each quarter.
13 units, any quarter (DIVISION OF MEDICINE)
Lab. MTWThF 9-12, 2-5, S 9-12

6. Animal Surgery.—Elective medical course. An advanced course in

operative surgery on dogs; the production and study of typical pathological anatomical lesions. Prerequisites: courses 4, 4*a*, and 4*b*.
5 units, spring quarter (MANWARING) Lab. TTh 8-12

7. Experimental Functional Pathology.—Elective medical course. A series of twenty-four kymograph and chemical studies on dogs; the production and study of typical pathological physiological conditions. Prerequisites: courses 4, 4*a*, and 4*c*.
5 units, spring quarter (MANWARING) Lab. WF 8-12

8. Journal Club.—Elective medical course. A reading course in current bacteriological literature. Prerequisites: courses 2 and 2*b*.
2 units, winter quarter (BURKE) By arrangement

9. Advanced Work: Research.

FEES.—Courses *C*, 3, 6, and 7, $10 each; courses 1 and 4, $15 each; course 2, $20; courses 2*a*, 4*a*, and 4*b*, $5 each. Students pay for breakage and animals used.

MAJOR REQUIREMENTS.—English 2, a reading knowledge of German or French, Physics 7, Chemistry 10, 16, *d*, *f*, *l*, Botany 1*c*, Zoology 11, Anatomy 1 (including histological technique), Physiology 3, 4, Bacteriology 1, 1*a*, 2, 2*a*, 2*b*, 3, 4, 4*a*, 4*b*, 4*c*, 5, and 8, or equivalents. The following is the recommended curriculum:

First Year: English 2; Physics 7; Chemistry 1, 3, *b*, (2, *a*); Botany 1*c*; German or French.

Second year: Chemistry *d*, *f*, 10; Zoology 1, 11; German or French.

Third Year: Chemistry 16, *l*; Anatomy 1; Physiology 3, 4; Bacteriology 1.

Fourth Year: Bacteriology 2, 2*a*, 2*b*, 3, 4, 4*a*, 4*b*, 4*c*, 5, 8, or equivalents.

BIBLICAL HISTORY AND LITERATURE

DAVID CHARLES GARDNER, Chaplain, Lecturer.
AUGUSTUS TABER MURRAY (Department of Greek).
HENRY DAVID GRAY (Department of English).

1. English Bible.—Representative portions of the Bible studied as literature. Not open to first-year students. [English 24.]
3 units, autumn quarter (GRAY) MWF 10

2. New Testament Literature.—A critical introduction to the literature of the New Testament for general students; no knowledge of Greek is presupposed. Lectures with assigned readings [Greek 20.]
3 units, spring quarter (MURRAY) MWF 10

3. The Religion of the Jew.—A study of Old Testament religion and ethics.
1 unit, autumn quarter (GARDNER) Th 11

4. Life of Christ.—A history of the life and times of Jesus. Lectures, discussions, and papers.
1 unit, winter quarter (GARDNER) Th 11

5. The Ethics of Christ.—An analysis of Christian Ethics as disclosed in the Gospels. The application of Christ's teaching to modern life.
1 unit, spring quarter (GARDNER) Th 11

BOTANY

DOUGLAS HOUGHTON CAMPBELL, GEORGE JAMES PEIRCE, Professors.
LEROY ABRAMS, LEONAS LANCELOT BURLINGAME, Associate Professors.
JAMES IRA WILSON MCMURPHY, Assistant Professor.

[In coöperation with President WILBUR, Professor MARTIN of the Department of Physiology, and Professor HEATH of the Department of Zoology, in the course in General Biology.]

The Department of Botany aims to provide instruction for two classes of students: (*a*) Students who wish to know something of the structures, life processes, relationships, and uses of plants, and to gain some familiarity with the methods of scientific work; and (*b*) Professional students who look forward to investigation, teaching, or the technical applications of Botany in Plant Breeding, Forestry, Agriculture, Horticulture, Plant Pathology, etc. Course 1*a*, 1*b*, 1*c*, which present the elements of the more important divisions of botanical study, are designed to meet the needs of both groups of students and must precede all other courses in the department, except in the case of students who have received equivalent credit. They must be taken in the Lower Division by those intending to become majors in this department. Courses 2 to 16 are open to students who have had courses 1*a*, 1*b*, or 1*c*, or their equivalent. It is the aim of these courses to give the student, by means of lectures and references to the literature, a general and summary account of the present state of knowledge, and in the laboratory and the field to afford him an opportunity for a personal acquaintance with plants themselves. Students who have had two or more years' work may, after consultation, be registered in courses 17, 18, 19, 20, 21. The resources of the department afford exceptional opportunity for investigation in a number of fields. Properly qualified students desiring to undertake such investigation should

register in courses 22, 23, 24, 25, 26, after consultation with the instructor concerned.

Major students in the department will be expected to complete 60 units in the department, and Zoology 1 or General Biology, to be taken in the Lower Division. The sixty units should include courses 1*a*, 1*b*, 1*c*, 2 or 3, 4 or 5, 7 or 8, 9, 10 or 11, and 12 or 13.

The TEACHER'S RECOMMENDATION in the University is based on the satisfactory completion of a minimum of two majors, or one major and two minors. A minor in Botany consists of Elementary Botany (courses 1*a*, 1*b*, and 1*c*) and one advanced course, chosen from the following: 4, 7, 8, 9, 10, 12, 13, 14, 15. A major must include the following: Elementary Botany (1*a*, 1*b*, 1*c*), General Fungi (4), General Morphology (2, 3, 7 or 9), Systematic Botany (10), Physiology (12 or 13), a total of 35 units.

Students looking to Forestry or Agriculture as a profession should include courses 4, 6, 10 or 11, 12, 13, 14, and 15 as part of their preparation, and the following subjects in other departments: elementary physics, chemistry, geology and physiography, zoology, entomology, economics, and applied mathematics. They should also be able to read French and German.

Fees are charged in the various courses approximately sufficient to cover the cost of the perishable materials and syllabus used, as follows: Courses 1, 2, 3, 7, 8, 9, 10, 11, 15, 17, 18, 19, 20, 22-26, $3.00 each; courses 4, 5, 6, 12, 13, 16, 21, $5.00 each.

1a. Elementary Botany: Morphology.—This course is designed to be a foundation course. It aims to present a comprehensive view of the entire plant kingdom from the lowest to the highest. The individual types studied will be chosen with reference to their suitability to illustrate the larger steps through which plants have passed in the course of evolution. Campbell's "A University Text-Book of Botany" is used as the principal text and should be owned by, or at least be available to, every student. References to other books will be given whenever advisable. The hour preceding the lecture on Tuesdays and Thursdays will be spent in the laboratory in study and conference under supervision.

5 units, autumn quarter (CAMPBELL, BURLINGAME, and Assistants)
Conference TTh 1:05; Lec. TTh 2:05; Lab. MWF 1:05-3:45

1b. Elementary Botany: Systematic.—Study of the fundamental principles of plant relationships, with special reference to the higher plants. Through the study of representative species and supplementary classification, it is intended to acquaint the student with the

more important families of flowering plants, and to enable him to determine independently for his own satisfaction the names and relationships of plants arousing his interest.

5 units, winter quarter (Abrams and Assistants) Lec. W 1:05; Lab. and Field Work MWThF 1:05-3:45

1c. Elementary Botany: Anatomy and Physiology.—Study of the structure, mainly of the land plants, with a view to understanding the vital processes of living plants and their relations to man. The laboratory work will be supplemented by field work.

5 units, spring and *summer quarters (spring, McMurphy and assistants; summer, Peirce and assistants) Lec. TTh 1:05; Lab. MWF 1:05–3:45

2. Fresh-Water Algae.—Lectures, readings, and laboratory work on the morphology and classification of Blue-green and Green Algae. Prerequisite: Botany 1*a*.

5 units, winter quarter (Campbell) [Not given in 1920-21]

3. Marine Algae.—Lectures, readings, and laboratory work on the morphology and classification of the Brown and Red Algae. This course is a continuation of course 2, but may be taken independently. Prerequisite: Botany 1*a*.

5 units, spring quarter (Campbell) [Not given in 1920-21]

4. General Fungi.—Lectures and laboratory work on the morphology and classification of Fungi. Prerequisite: Botany 1*a*.

5 units, winter quarter (McMurphy) Lec.-Lab. MTWThF 1:05-3:45

5. Fleshy Fungi.—Lectures, laboratory, and field work on the fleshy Fungi ordinarily known as mushrooms, toadstools, etc. Prerequisite: Botany 1*a*.

5 units, winter quarter (McMurphy) [Not given in 1920-21]

6. Plant Pathology.—Lectures, laboratory, and field work on fungous and other plant diseases. Open only to students who have had course 4 or its equivalent.

5 units, spring quarter (McMurphy) [Not given in 1920-21]

7. Bryophytes.—Lectures and laboratory work on the special morphology and classification of the Bryophytes (Mosses). Prerequisite: Botany 1*a*.

5 units, winter quarter (Campbell) Lec. W 1:05; Lab. MTThF 1:05–3:05

8. Pteridophytes.—Lectures and laboratory work on the special morphology and classification of Pteridophytes (Ferns, Horsetails, Club-mosses). This course is a continuation of course 7. Prerequisites: 1*a* and 7.

5 units, spring quarter (Campbell) Lec. W 1:05; Lab. MTThF 1:05-3:05

9. Seed Plants.—Lectures and laboratory work on the general morphology and anatomy of Gymnosperms and Angiosperms. This course is intended to continue and round out the work of courses 2, 3, 4, 7, 8. It aims to give the student an insight into the origin and relationships of the larger groups of Seed Plants through a study of their Morphology, Embryology, and Comparative Anatomy. Prerequisite: course 1*a*; desirable, courses 7 and 8.

5 units, winter quarter (BURLINGAME) By arrangement

10. Systematic Botany.—Study of the flowering plants with special emphasis on the more complex and difficult groups. In connection with the course a botanical survey of the local flora will be undertaken, in which each student will choose a special problem. Course 1*b* is a prerequisite.

5 units, spring quarter (ABRAMS) By arrangement

11. Geographical Distribution and Forest Botany.—Study of the trees and shrubs, and the principles of geographical distribution which they illustrate. The laboratory work will be supplemented by work in the field and in the Arboretum.

5 units, autumn quarter (ABRAMS)
Lec. T 1:30; Lab. and Field Work MWThF 1:30-4

12. Nutrition and Respiration.—Experimental study of these two functions, supplemented by lectures and reading. Prerequisite: 1*c* or its equivalent. Knowledge of the elements of physics and chemistry is desirable.

5 units, autumn quarter (———) Lec. TTh 9; Lab. MWF 8-10

13. Growth, Irritability, and Reproduction.—Experimental study supplemented by lectures and reading. Prerequisite: course 1c or its equivalent. Knowledge of the elements of physics and chemistry is desirable.

5 units, winter quarter (———) Lec. TTh 9; Lab. MWF 8–10

14. Genetics.—Lectures on inheritance in plants and animals. Prerequisites: Botany 1, Zoology 1, General Biology, or equivalent.

3 units, spring quarter (BURLINGAME)

15. Plant Breeding.—Laboratory and garden exercises to supplement course 14.

2 units, spring quarter (BURLINGAME)

16. Cytology and Technique.—1. Lectures on the structures and functions of the cell, with special reference to the mechanism of inheritance and the practical consequences thereof in plant breeding. 2. Laboratory exercises in (*a*) histological and cytological technique (killing

and fixing, embedding, sectioning, staining, etc.), (*b*) study of selected slides illustrating the lecture topics, mitosis, gametogenesis, sporogenesis, etc.

Winter (or spring) quarter (BURLINGAME) By arrangement

17. Advanced Plant Pathology.—Field and laboratory work on special diseases.

(MCMURPHY) Hours and credit by arrangement

18. Advanced Archegoniates.—This course offers opportunity for individual students to continue (along lines of special interest) the work begun in course 7 or 8. Prerequisites: Elementary Botany and course 7 or 8 or equivalents.

(CAMPBELL) Hours and credit by arrangement

19. Advanced Systematic Botany.—Special problems in taxonomy and geographical distribution, with reference to methods of investigation. This course is intended primarily as preliminary training for research work in taxonomic botany.

(ABRAMS) Hours and credit by arrangement

20. Problems in Genetics and Plant Breeding.—This course offers an opportunity to continue advanced work along the lines of course 15.

Any quarter (BURLINGAME) By arrangement

21. Advanced Physiology.—Experimental study of a single problem by one or more individuals. Prerequisites: Elementary Botany and courses 12 and 13, or their equivalents.

(———) By arrangement

22. Research in Morphology.—Students desiring to do original investigation in morphology must have had adequate training in the appropriate special morphology courses or their equivalents.

(CAMPBELL) By arrangement

23. Research in Plant Pathology.

(MCMURPHY) By arrangement

24. Research in Taxonomy and Geographical Distribution.

(ABRAMS) By arrangement

25. Research in Cytology and Genetics.—For students who wish to undertake original work in genetics or cytology. Prerequisites are an adequate training in general botany and such special courses as the nature of the work makes necessary.

Any quarter (BURLINGAME) By arrangement

26. Research in Physiology.

(———) By arrangement

GENERAL BIOLOGY

General Biology.—This course attempts to present to beginners by means of lectures, illustrations, demonstrations, and laboratory exercises the fundamentals of Biology in its broadest sense. It includes a study of: (1) Protoplasm, the common living substance of all plants and animals; (2) The organization of cells and their combination into multicellular organisms; (3) The role of green plants in the manufacture of foods; (4) The transformation of foods into the living substance of plants and animals; (5) the liberation and utilization of the chemical energy of foods, chiefly by animals; (6) The sensitivity of protoplasm and its role in correlating the internal processes of the organism on the one hand and relating and adjusting it to its environment on the other; (7) Disease and death of organisms; (8) The enrichment of the soil through the decomposition of organic remains and nitrogen fixation; (9) The perpetuation of the species through reproduction; (10) The laws and mechanism of heredity; (11) Evolution and adaptation of organisms; (12) The factors controlling the ecological and geographical distribution of organisms; and (13) Man's place in nature. No prerequisites, and required of all Lower Division students who do not present a high school equivalent or elect an equal amount of work in one of the biological departments. (See requirements under Biology in Announcement of Lower Division.) Nine hours as follows:

3 units, autumn quarter (Burlingame, Doane, Heath, Martin, Peirce, Wilbur) Lec. MWF 8
3 units, winter quarter (Abrams, Burlingame, Fisher, Heath, Martin, Vestal) Lec. MWF 8
3 units, any quarter (Perry, Sponsler, Vestal) Lab. MWF 1:05–4:05, or TTh 1:05–4:05 and S 8–11

CHEMISTRY

John Maxson Stillman, Professor Emeritus.

Robert Eckles Swain, Edward Curtis Franklin, Lionel Remond Lenox, Stewart Woodford Young, Professors.

John Pearce Mitchell, Associate Professor.

William Henry Sloan, Assistant Professor.

Alice Ruth Berger, William Edmund Burke, John Frederick Gross Hicks, *Ernest Oertly, Norris Watson Rakestraw, Instructors.

Imo Pearl Baughman, Herbert Arthur Endres, Charles Kirkton McWilliams, William M. Schaufelberger, Sidney Schein, Teaching Fellows.

* Deceased, January 5, 1920.

I. Lecture Courses

1. General Inorganic Chemistry.—Comprising a systematic treatment of elementary principles and of the properties of the more important elements and their compounds. Open to all students. Three lectures and one recitation period each week. Students with entrance credit in Chemistry are exempted from the recitation period. Students without entrance credit in Chemistry are required to register in laboratory course *a*, concurrently.

3 units, autumn and *winter quarters (Mitchell)
(autumn) Lec. MWF 8, Rec. F 10; (winter) Lec. TThS 8, Rec. F 10

3. General Inorganic Chemistry.—Continuation of Chemistry 1. Open to students who have had courses 1 and *a*, or their equivalents. (Entrance credit in Chemistry is equivalent to course *a*.)

3 units, winter and *spring quarters (Mitchell)
(winter) MWF 8; (spring) TThS 8

4. General Inorganic Chemistry.—Combination of Chemistry 1, 2, and 3. Open to all students in the summer quarter.

6 units, summer quarter (Hicks) MTWThFS 8

5. Principles of Inorganic Chemistry.—Discussion of the elements of chemical theories and of important generalizations in the field of inorganic chemistry. Prerequisite: Chemistry 3 or 4, or an equivalent.

4 units, autumn quarter (Swain) MTWF 11

6. Principles of Inorganic Chemistry.—Continuation of Chemistry 5. Prerequisite: Chemistry 5 or its equivalent.

4 units, spring quarter (Swain) MTWF 11

7. Organic Chemistry.—Lectures and reviews on the chemistry of carbon compounds. Open to students who have completed courses 5 and 6 or their equivalent.

5 units, autumn quarter (Franklin) MTWThF 10

8. Organic Chemistry.—Continuation of Chemistry 7.

5 units, winter quarter (Franklin) MTWThF 10

9. Advanced Organic.—Advanced topics in organic chemistry, including stereochemistry. Open to students who have completed courses 5–6, and 7–8.

3 units, spring quarter in alternate years (Franklin) [Not given in 1920–21]

10. Elementary Organic Chemistry.—A condensed course in organic chemistry offered particularly for students in medicine, but open to all who have completed course *d*. Brief course, not for Chemistry majors.

5 units, spring and *summer quarters (McWilliams) (spring) MTWThF 8
(summer) MTWThF 10

11. Chemical Calculations.—Consists of a series of problems designed to review the fundamental principles of analytical and theoretical chemistry. Open to juniors and seniors who have had courses 5, 6, and *f*. A series of more advanced problems will be given by arrangement.

3 units, spring quarter (MITCHELL) MWF 8

12. Industrial Chemistry.—Lectures on fuels, water, acid and alkali manufacturing, explosives, sugar-making and refining, petroleum. Open to students who have completed courses 5-6 and 7-8.

5 units, spring quarter (LENOX, FRANKLIN, SWAIN, MITCHELL) MTWThF 9

13. General Physical Chemistry.—Lectures covering as far as possible the whole field of physical chemistry. Open to students who have completed Chemistry 5, 6, 7, 8, and *f*, courses 5 or 7 in Mathematics, and courses 1*a*, 1*b*, 1*c*, or 2*a*, 2*b*, 2*c* in Physics.

5 units, autumn quarter (YOUNG) MTWThF 8

14. General Physical Chemistry.—Continuation of Chemistry 13.

5 units, winter quarter (YOUNG) MTWThF 8

15. Electro-Chemistry.—Discussion of the general theories and applications of electro-chemistry. Open to seniors in Chemistry, and to others who have completed courses 13 and 14 or their equivalent.

3 units, spring quarter (BURKE) MWF 11

16. Physiological Chemistry.—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. Open to students who have completed courses 7 and 8, or 10.

5 units, autumn and *summer quarters (SWAIN) MTWThF 8

17. Seminary in Chemistry.—Discussion of assigned topics in theoretical and general chemistry. Open to graduate students, and to advanced undergraduates in Chemistry, with the approval of the Faculty in Chemistry.

1 unit, every quarter (FRANKLIN, YOUNG, SWAIN) W 4

20. Qualitative Analysis.—Lecture course in connection with laboratory course *d*. Open to students who have completed courses 3 or 4, and *b* or *c*.

1 unit, autumn, *winter, and *spring quarters (LENOX) TTh 1:05

21. Quantitative Analysis.—Lecture course. Must be taken in conjunction with course *f*.

1 unit, autumn, *winter, *spring, and *summer quarters (SLOAN) TTh 1:05

22. Quantitative Analysis.—Lecture course. Must be taken in conjunction with course *g*.

1 unit, autumn, *winter, and *summer quarters (SLOAN); *spring quarter (SCHEIN) WF 1:05

II. Laboratory Courses

a. Elementary Inorganic Chemistry.—In connection with course 1. Illustrating fundamental laws and principles of elementary chemistry. Required of students who have not received entrance credit in Chemistry.

3 units, autumn and *winter quarters (Mitchell, Rakestraw, Baughman, Schaufelberger) MTW 1–4, or ThF 1–4 and S forenoon

b. General Inorganic Chemistry.—Inorganic preparations and general chemistry. For students with entrance credit or Chemistry *a*.

3 units, every quarter (Mitchell, Rakestraw, Baughman, Schaufelberger) MTW 1–4, or ThF 1–4 and S 9–12

c. General Inorganic Chemistry.—Combination of *a* and *b*. Open to all students in the summer quarter.

5 units, summer quarter (Rakestraw) 5 afternoons

d. Qualitative Analysis.—Open to students who have completed courses 3 or 4, and *b* or *c*. Given in conjunction with course 20.

5 units, autumn, *winter, and *spring quarters (Lenox, Berger) 5 afternoons

e. Organic Preparations.—Preparation of typical carbon compounds. Open in connection with courses 7 and 8 to students who have completed course *d*.

5 units, winter, *spring, and *summer quarters (Franklin, McWilliams) 5 afternoons

f. Quantitative Analysis.—Introductory. Training in manipulation in gravimetric and volumetric methods. Open to students who have completed course *d*. First-year students are admitted to this course only in case they have completed course 5, in addition to *d*. Given in conjunction with course 21.

5 units, autumn, *winter, *spring, and *summer quarters (autumn, winter, Sloan, Schein, Endres; spring, Schein, Endres; summer, Sloan) 5 afternoons

g. Quantitative Analysis.—An introductory course in quantitative methods with emphasis on volumetric work. Not open to chemistry majors. Same prerequisites as course *f*.

4 units, autumn, *winter, and *summer quarters (Sloan) 4 afternoons

h. Quantitative Analysis.—A continuation of course *f*, principally gravimetric methods.

5 units, autumn, *winter, and *summer quarters (Sloan) 5 afternoons

i. Advanced Quantitative Analysis.—Systematic mineral analysis and volumetric assays of ores of copper, lead, zinc, iron, and manganese. Considerable option is allowed in this course to meet the needs of students interested in special lines of work or in particular industries. Open to students who have completed courses *f* and *h* and required of all students registering in division B (Analytical Chemistry).

Students majoring in other departments, who have completed course *f* in Chemistry, may register for three units of work in this course, covering the volumetric portion only.

3 or 5 units, spring quarter (LENOX, BERGER) 3 or 5 afternoons

k. Physical-Chemistry Measurements.—Exercises in the practice of physical-chemical laboratory methods. Open to students who have completed or are taking courses 13–14, and who have completed courses 7, 8, *c*, and *f*. In special cases and by special arrangement this course will be open to students who have completed courses 7, 8, *e*, and *f*, but have omitted courses 13–14.

5 units, every quarter (YOUNG, BURKE) 5 afternoons

1. Physiological Chemistry.—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them; followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. The latter half of the course is devoted to quantitative analytical methods. In connection with course 16.

4 units, autumn and *summer quarters (SWAIN, MCWILLIAMS) 4 afternoons

x. Advanced and Special Courses.—Advanced and Special Courses in laboratory work and research work are open to students who have completed the necessary prerequisites, by arrangement with professors of the department, and with reference to the particular aims and ambitions of the students. Such advanced or special subjects are, for example: special methods in mineral analysis, iron and steel analysis; special methods in assaying; water analysis; urine analysis; elementary organic analysis; special organic preparations; analysis of sugar, toxicology, etc.

Qualified students may also pursue investigations of problems in inorganic, organic, physical, analytical, or physiological chemistry under the direction of any professor with whom arrangement is made.

For all such advanced, special, or research work, students will register and enroll under *x*, giving name of the professor under whom the work is to be carried on, and for such number of units of credit as may be agreed upon.

Students intending to major in the Department of Chemistry are advised to offer entrance credit in chemistry, physics, mathematics (including solid geometry and trigonometry for the chemical engineering course), and German (2 units). Students without these entrance credits may experience some difficulty, especially in the chemical engineering course, in conforming to the Departmental requirements for graduation.

Candidates for the degree of Bachelor of Arts in Chemistry may select any one of the four following curricula (A, B, C, D), the requirement of the Department being as follows:

A. General Chemistry

(Recommended for all who are studying the science of chemistry particularly as a basis for teaching or research.)

First Year—Chemistry 1, 3, *b*, 20, *d* (2, *a*); German 1, 2, 3; Mathematics 7.

Second Year—Chemistry 5, 6, 21, *f*; German 25, 26, 27; Physics 1*a*, 1*b*, 1*c*.

Third and Fourth Years—Chemistry 7, 8, 13, 14, *e*, *k*, or *x*.

B. Analytical Chemistry

(Particularly adapted to students who are looking forward to the career of analytical chemist and assayer.)

First Year—Chemistry 1, 3, *b*, 20, *d* (2, *a*); German 1, 2, 3; Mathematics 7.

Second Year—Chemistry 5, 6, 21, *f*; German 25, 26, 27; Physics 1*a*, 1*b*, 1*c*; Geography 1; Geology 1.

Third and Fourth Years—Chemistry 7, 8, *e*, *h*, *i*, *k*, or *x*; Mineralogy 1.

C. Medical and Sanitary Chemistry

(Particularly adapted to students who are looking forward to medical education or to sanitary chemistry.)

First Year—Chemistry 1, 3, *b*, 20, *d* (2, *a*); German 1, 2, 3.

Second Year—Chemistry 5, 6, 21, *f*; German 25, 26, 27; Physics 1*a*, 1*b*, 1*c*; Zoology 1.

Third and Fourth Years—Chemistry 7, 8, 16, *e*, *l*, *k* or *x*; Physiology 2.

D. Chemical Engineering

(Intended particularly for students who are working toward the degree of Chemical Engineer and who desire to fit themselves for positions of responsibility in connection with the administration of industries involving chemical knowledge and skill.)

This curriculum comprises four years of the necessary five years' work leading to the advanced degree of Engineer in Chemical Engineering. Candidates in this course receive the degree of A. B. in Chemistry upon completion of the following requirements:

First Year—Chemistry 1, 3, *b*, 20, *d* (2, *a*); German 1, 2, 3; Applied Mathematics 1*a*, 1*b*, 2*a*; Engineering 1, 2.

Second Year—Chemistry 5, 6, 21, *f*; German 25, 26, 27; Applied Mathematics *2b*, *3a*, *3b*; Engineering 3; Mechanical Engineering 12.

Third Year—Chemistry 7, 8, *h*; Engineering 10, 11, 12; Physics *2a*, *2b*; Mechanical Engineering 13.

Fourth Year—Chemistry 12, 13, 14, *e*; Physics *2c*; Mechanical Engineering *32*, *33*.

Advanced Degrees

Applicants for the degree of Masters of Arts in Chemistry will be expected to complete in addition to the requirements for the bachelor's degree, the equivalent of forty-five units' work in the University—of which approximately two-thirds must be in the Department. This work will include a thesis based on laboratory work, and Chemistry 13, 14, and *k*, if not included in the undergraduate work.

Candidates for the advanced degree of Engineer in Chemical Engineering will be required to complete, in addition to the requirements for the A. B. degree specified under course D, Chemistry *k* or *x*, Mechanical Engineering 21, 23, 36, and a thesis based on laboratory work. Electrical Engineering is advised, if possible, though not required. It is estimated that these requirements may be completed in one year after the completion of the requirements under Course D.

Candidates for the degree of Doctor of Philosophy in Chemistry, after the completion of the equivalent of the requirements for Master of Arts or Engineer, will follow such courses as are approved by the Department faculty, subject to general University regulations.

The Teacher's Recommendation.—The minimum requirements for the high school teacher's recommendation in Chemistry are as follows:

a. To teach chemistry as a minor high school subject: Courses 1–3 or 4, *b* (General Inorganic lectures and laboratory); 20, *d* (Qualitative Analysis); 5,6 (Principles of Chemistry); and either 7 or 10 (Organic Chemistry). Total, 27 units.

b. To teach chemistry as a major high school subject: Courses 1–3 or 4, *b* (General Inorganic lectures and laboratory); 20, *d* (Qualitative Analysis); 21, *f* (Quantitative Analysis); 5, 6 (Principles of Chemistry); 7, 8 (Organic Chemistry). Total, 37 units.

Laboratory Fees.—A charge of $25 per quarter ($10 of which is returnable less bills for breakage and loss of apparatus) is made to students in courses *a*, *b*, and *c*; for three units credit in Chemistry *i* or *x* the fee is $20 per quarter (with $10 returnable less breakage); for all other courses of not more than six units credit the fee is $30 per quarter (of which $15 is returnable less bill for breakage and loss of apparatus).

ECONOMICS

Murray Shipley Wildman, Walter Greenwood Beach, Albert Conser Whitaker, Professors.
Eliot Jones, Associate Professor.
John Bennet Canning, Assistant Professor.
Margaret Mulford Lothrop, Nathaniel Sanders, Instructors.
†Yamato Ichihashi, Lecturer.

Graduation.—To arrange a course of study leading to the degree of Bachelor of Arts in Economics a student should consult freely with his departmental adviser in order that his program of work may be adapted to his special needs or interest. In making such a program at least a fourth of the required 180 units should be selected from courses offered in this department and at least a third of these should be advanced.

In addition to courses offered in this department others offered in Political Science, History, Law, Philosophy, English, the natural sciences, and the languages will be found helpful and should be included in a student's program.

Course 1 (Elements of Economics) and course 51 (Principles of Economics) are required of all candidates for graduation in Economics.

Teacher's Certificate.—To obtain a teacher's certificate with the major subject in this department a student will be required to secure credit for 45 units of work in Economics and Political Science. For a certificate with a minor in this department, credit for 25 units is required.

Journalism.—Students, majors in this department, who desire to prepare for journalism are referred to the announcement on page 183.

Elementary and General Courses

1. Elements of Economics.—General and introductory course, primarily for first-year and second-year students. Three lectures and two quiz hours each week. Seniors and juniors may register for this course, but will be given but three units of credit and their attendance in quiz sections is not compulsory. Enrollment is limited each quarter.

5 units, autumn, *winter, *spring, and *summer quarters (Wildman, Jones, Lothrop) MTWThF 9

3. Elementary Accounting.—Development of accounting; theory of debit and credit; bookkeeping forms and practice preparation of balance sheets and their interpretation; application of theory and principle

† Absent on leave, 1919-20.

to simple systems of accounts; practical accounting problems. No prerequisites. This course should be taken by students expecting to enter courses 20 and 55.

3 units, autumn, *winter, *spring, and *summer quarters (CANNING, SANDERS) MWF 9

4. Introduction to Sociology.—A study of the origin, development, organization, and functions of society, with illustrations and discussions of social problems of the present day.

4 units, autumn and *summer quarters (BEACH) MTWTh 10

5. Railway Transportation.—Historical account of railroad transportation; development of railroad systems; state and federal legislation; decisions of the commissions and of the courts; government ownership and operation. Prerequisite: course 1.

5 units, autumn quarter (JONES) MTWThF 8

6. Introduction to Statistics.—A study of elementary statistical methods appropriate for dealing with problems in the social sciences and business. Illustrative data are drawn from the phenomena of population, industry, commerce, and finance. Emphasis will be given to the critical examination of data, to the defining of statistical units, to the theory of classification, to the properties and appropriate uses of the commoner averages and to the determination and interpretation of index numbers. The collection, recording, and tabulation of data, the uses of graphic method, simple association, dispersion and correlation, will be discussed and illustrated. Limited to forty. (Three hours class discussion and two hours laboratory work each week. Laboratory hours to be announced later.)

5 units, autumn quarter (CANNING) (Class hours) MWF 8

7. Financial History of the United States.—A general historical survey of the financial policy of the national government with especial emphasis on the Revolution, Civil War, and recent periods. The subject matter of the course includes the tariff, the internal revenue system, public finances in time of war, the public land policy, the growth of public expenditures, management of the public debt, and treasury administration. Open to all students who have had or are taking Economics 1.

4 units, winter quarter (———) [Not given in 1919-20]

8. Economic Resources of the United States.—A lecture and reading course on the economic resources of the United States, with some attention to the problems of conservation and public control. This course should be taken as prerequisite to 25*b* (Marketing of Farm Products) and 67 (Industrial Development of the United States).

5 units, winter and *summer quarters (———) [Not given in 1919-20]

10. Accountancy of Investment.—Methods of valuing income-bearing properties and securities on the basis of a rate of interest, and of finding the rate of interest yielded on investments. Depreciation and sinking funds. The student's work will consist largely in the solution of assigned problems. Advanced mathematics not required.

4 units, autumn, *winter, and *spring quarters (WHITAKER) MTWTh 11

[**Business Law.**—See course 49 in Law School.]

INTERMEDIATE COURSES

[The following courses are primarily for students who have more than forty units of university credit.]

20. Corporation and Trust Finance.—Elementary survey of corporation law; the organization and management of corporations and combinations; the corporation's securities, stocks and bonds, and their classification; the stock market and stock speculation; capitalization, surplus, reserve, and financial policy; the provision of new capital; promotion, underwriting, receiverships and reorganization.

4 units, winter quarter (WHITAKER) MTWTh 10

21. Public Finance.—A general course dealing with the history and theory of public expenditures, national, state, and local budgets, methods of securing efficiency in the disbursements of public moneys, public debts, and war finance.

4 units, spring quarter (BEACH) MTWTh 9

22. Labor Problems.—A general course. The topics considered include the following: the rise of the wage-earning class, the industrial revolution, unemployment, woman and child labor, wages, and collective bargaining.

4 units, winter quarter (BEACH) MTWTh 8

23a. Social Agencies.—A general survey of the problems allied to that of poverty and of the modern methods of relief and prevention.

4 units, winter quarter (LOTHROP) MTWTh 10

23b. Social Agencies.—A continuation of course 23*a*, but open to those who have not had that course.

4 units, spring quarter (LOTHROP) MTWTh 10

23c. Social Agencies.—A general survey of the problems of corrections; the criminal and his characteristics, the treatment of the criminal, the causes and prevention of crime.

4 units, summer quarter (LOTHROP) MTWTh 10

24. Economics and the Home.—The problems of the household as a factor in the consumption of wealth.

3 units, winter quarter (LOTHROP) MWF 11

25a. Marketing of Manufactured Products.—An analysis of the commercial mechanism which has been developed in the United States for the distribution of commodities from manufacturer to consumer, including the organization and interrelation of the principal types of marketing agencies. Not open to first-year students.

3 units, winter quarter (———) [Not given in 1919–20]

25b. Marketing of Farm Products and Raw Materials.—A study of the forces determining the movement of commodities from producing areas to consuming centers, and of the commercial organization for assembling the raw materials of industry; coöperative marketing systems, notably the association of producers as developed in California; and a survey of available markets for American farm products. Prerequisite: course 8.

3 units, spring quarter (———) [Not given in 1919–20]

26. Money and Credits.—The elements of monetary theory; the laws of coinage, legal tender, and credit; the standard of value, price movements and their relation to prosperity.

3 units, autumn quarter (WILDMAN) TThS 8

27. Insurance.—The social and individual problems of economic insecurity; the development of forms of insurance to deal with them; outlines of the principles of the major commercial branches of insurance; problems of state control and participation.

3 units, winter quarter (CANNING) MWF 11

29. Intermediate Accounting.—The principles of accounting common to all systems of accounts in acquisitive enterprise, developed by discussion of the information needed by the various interested persons, e. g., the stockholder, the director, the manager, the creditor, etc. Problems illustrative of theory of accountancy and problems of interpreting financial statements constitute a major portion of the work. Prerequisite: course 3 or its equivalent. Limited to forty.

3 units, autumn quarter (CANNING) MWF 11

30. Water Transportation.—Historical account of ocean transportation; decline of the American merchant marine engaged in foreign trade explained; necessity of a merchant marine considered; means of establishing a merchant marine analyzed; experience of foreign nations; combination movement in shipping and shipbuilding in United States; Panama Canal; effect of the war; federal legislation; future of American merchant marine.

4 units, spring quarter (JONES) MTWTh 8

31. Business Administration.—An introduction to the problems of modern business enterprise; industrial location and plant location; the

functions of the administrator in correlating departments and promoting efficiency and coöperation of personnel; business ethics in relationships internal and external to the enterprise.

4 units, summer quarter (CANNING) MTWTh 8

32. Sociology and Social Work.—A study of present social problems and an introduction to the fields and methods of social work and the training of social workers.

3 units, summer quarter (BEACH) MWF 9

ADVANCED AND GRADUATE COURSES

[The courses which follow are not open to any students with less than 80 units of university credit.]

50. Railway Problems.—A study, from the viewpoint of public policy, of the problems that arise in connection with government regulation and government ownership. Prerequisite: course 5. (Given in 1920–21 and in alternate years.)

4 units, winter quarter (JONES) MTWTh 8

51. Principles of Economics.—A review of the principles of economics. Required of economics majors and open only to them and to graduate students of other departments.

4 units, autumn quarter (JONES) MTWTh 9

52. Banking.—The organization of American credit institutions under the Federal Reserve Act, and a comparison between American and European practice.

3 units, summer quarter (WILDMAN) TThS 9

53. Population.—The purpose of this course is threefold: (1) A historical survey of the phenomena of population in the leading countries, (2) an examination of theories of population, and (3) an attempt to determine the position of population as an economic factor. Students intending to take course 54 are advised to take this course as preparatory to it.

3 units, winter quarter (ICHIHASHI) [Not given in 1919–20]

54. Immigration and the Race Problem.—A study of immigration as a phenomenon of population, and the social and economic significance of the ethnic composition as affected by it, with special reference to the United States.

4 units, spring quarter (BEACH) MTWTh 11

55. Advanced Accounting.—The course recognizes two classes of students: (1) those who intend to become professional accountants; (2) those who have chosen a future occupation and desire a knowledge of its accounting problems. The work will be developed in a series of

problems in various specialized systems of accounts. An effort will be made to accommodate the subject matter to the needs of the class. Prerequisite: course 29 or its equivalent.

4 units, winter quarter (CANNING) MTWTh 10

56. Foreign Exchanges.—A study of the system of settling international indebtedness; principles and practice of exchange banking; money markets of the world and their relations. Domestic exchange will also be considered.

4 units, autumn quarter (WHITAKER) MTWTh 10

57. Railway Administration.—A study, from the viewpoint of the railroad executive, of railway organization, traffic, finance, accounts, and rates. Prerequisite: course 5. Best preceded by courses 3 and 20.

4 units, winter quarter (JONES) [Not to be given in 1920-21]

58. Investments.—A study of the issues of national, state, and municipal governments, of railway, industrial, and irrigation companies from the investor's point of view, and the organization and methods of bond and brokerage houses.

3 units, spring quarter (WILDMAN) TThS 9

60. Valuation.—The valuation of the properties of public service companies for the purposes of the regulation of rates, with an introductory study of relevant parts of the theory of value and of interest. Courses 10 and 20 should precede course 60.

4 units, autumn quarter (WHITAKER) MTWTh 10

69. Seminar in Transportation.—This seminar is designed for advanced students.

Spring quarter (JONES) By arrangement

70. Graduate Seminar.—Open only to candidates for higher degrees and members of the department.

Autumn, winter, and spring quarters (WILDMAN) By arrangement

AI. Secretarial Training.—This course offers training in stenography and typewriting supplemented by instruction in the form, arrangement, and the general mechanical make-up of the business letter. It is open to a limited number of students from all departments in the order of their application. Credit for any of the courses in secretarial training is not accepted in fulfillment of the departmental requirements for graduation, but may count as part of the university requirement for the degree. Four hours' instruction a week in stenography and three in typewriting.

4 units, autumn, *winter, *spring, and *summer quarters (SANDERS) TWThF 11

AII. Secretarial Training.—Development of speed with accuracy on the typewriter coupled with ability to take stenographic dictation at

the rate of 80 words a minute. Discussion of special problems in commercial correspondence and in office management. Open to those who have completed AI or its equivalent.

4 units, autumn, *winter, *spring, and *summer quarters (SANDERS) TWThF 9

AIII. Secretarial Training.—Special emphasis will be laid on further development of typewriter speed and on transcript work. In stenography the student should be able to take dictation at the rate of 110 words a minute. A study will be made of the duties and responsibilities of a secretary and the ethics of business. Open to those who have completed course AII or its equivalent.

4 units, autumn, *winter, *spring, and *summer quarters (SANDERS) By arrangement

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EDUCATION

SCHOOL OF EDUCATION

The purpose of the School of Education is to enable the University to meet the legitimate demands of the State in the matter of the preparation, training, and certification of teachers and school officers. The faculty of the School is composed of the faculty of the Department of Education, together with representatives from other departments concerned with the preparation of teachers for the intermediate and secondary schools; and the faculty of the School has outlined courses for preparation in both majors and minors which will lead to certification as teachers. A special announcement of the School, giving details as to its organization, requirements, and programs of study, will be mailed on request.

Of this School, the faculty of the Department of Education proper constitutes one division, and the faculty of the Division of Graphic Art another division.

DEPARTMENT OF EDUCATION

ELLWOOD PATTERSON CUBBERLEY, LEWIS MADISON TERMAN, Professors.
TRUMAN LEE KELLEY, Acting Professor (1920–21).
PERCY ERWIN DAVIDSON, JESSE BRUNDAGE SEARS, Associate Professors.
WILLIAM MARTIN PROCTOR, Assistant Professor, and Director of Practice Teaching.
WILLIAM THOMAS ROOT, JR., Research Fellow on the Buckel Foundation.

The Department of Education offers six main lines of work:

1. Courses of a general nature on the history, function, and adminis-

tration of public education, intended in part as information courses for the general university student and without reference to the work of teaching. To such students the courses of Groups I and II are recommended.

2. Three major courses, which may be followed by candidates for the High School Teacher's Recommendation, each counting as one of the required majors, and offering preparation along the following lines:

a. Theory of Education. Intended for those desiring a general acquaintance with educational theory.

b. Supervisor of Special Subjects. Intended as preparation for those planning to become supervisors of special subjects, such as English, History, Science, Mathematics, in normal schools or in public schools.

c. Principal or Superintendent. Intended for those desiring recommendation for administrative work in city school systems.

Each such major course requires the completion of 45 units of work in the Department of Education. (For an outline of each course, see the Announcement of the School of Education.)

3. Courses intended to assist other departments in preparing their students for certification to teach in secondary schools in California. All such students should confer with members of the Department of Education as to courses, but in general, courses 1, 2, 3 or 4, and 20 are recommended, if the candidate has not had experience in teaching. Three units of work in courses relating to secondary-school work are required of all candidates for the high school teacher's recommendation, under the regulations of the California State Board of Education, as are courses 27 and 28, if the candidate has not had previous experience in teaching. (For a more detailed statement, see the Announcement of the School of Education.)

4. Courses primarily for major students, or those making Education a minor, and intended to give special preparation to (*a*) those who desire to become teachers of Education in normal schools or colleges, (*b*) those who wish to prepare for supervisory or administrative positions in the public schools, elementary or secondary, and (*c*) those who wish to prepare for special educational work in the elementary or secondary field.

5. Courses and research work in the psychology and pedagogy of exceptional children. Two lines of work are offered in this field: (*a*) elementary courses designed to give prospective superintendents and principals a general acquaintance with the problems of special education, and (*b*) research courses for the advanced student who looks forward to work as clinical psychologist in the public schools or institutions for

defectives or delinquents. The Dr. C. Annette Buckel Foundation, supplemented by additional support from the Board of Trustees of the University, has provided for a "research fellowship in the psychology and pedagogy of backward children."

6. Courses for the preparation of teachers of drawing for the public schools, and for the general training of college students in artistic perception and graphic expression. (See Division of Graphic Art.) Students may enroll as major students in this division, beginning with the freshman year.

The courses in Education are open to all students as electives or as minor subjects, but only those who desire to prepare for one of the lines of work mentioned above under (4) or (5), and whose preparation and experience are satisfactory to the department, will be accepted as major students. Only graduates of normal schools or other teachers' training schools, or those having had teaching experience and having junior standing, will be accepted as major students in Education during the two undergraduate years. Graduate work in Education is open to all properly qualified students, without these restrictions.

Major Requirements

Undergraduate Work.—Major students begin their work in Education with the junior year, taking courses 1, 2, and 3 or 4. Psychology 1 and 6 should also be taken this same year. Collateral work will be advised to meet individual needs, though a course in biological science ordinarily will be required. For graduation the student must complete thirty units of selected work in the department, and satisfy the requirements of one teaching major or two minors in the School of Education and outside the department. Students coming with advanced or graduate standing from other universities may have substantially equivalent preparation or experience accepted in lieu of the courses and the major and minor work required here, and be permitted to do more advanced work instead.

First Graduate Year.—The requirements for the baccalaureate degree cover only introductions to the different fields of Education and those proposing to offer themselves for responsible positions in educational work will be expected to proceed at once to the Master's degree. For this at least thirty units in advance of the baccalaureate requirements, together with the presentation of a satisfactory thesis, will be required. Work in Group I will not be included, and ordinarily one-half of the thirty units must be work listed under Groups III, IV, and V. The completion of the first year of graduate study should mean a somewhat general acquaintance with the different fields of Education, together with the beginnings of specialization in some one or two of these.

Those who desire to prepare properly for the type of positions indicated under 4 or 5 should proceed to the doctorate.

Second Graduate Year.—During the second year of graduate study the student will be expected to attain a mastery of the literature and practice in three of the following divisions of the subject: (1) History of Education, European and American, (2) the Theory and Practice of Elementary or Secondary Education, (3) Administration of Education, (4) Educational Psychology and Theory, (5) Educational Hygiene. Students intending to proceed to the doctorate, either at once or later, should select one of these divisions as a major and one as a minor, and by the end of the second year of graduate study should also have completed in large part the required work in a second minor, outside of the department; should be able to pass off the modern language requirements; and should be well started on the dissertation. Acceptance as a candidate for the Ph. D. degree requires an affirmative vote of the department faculty, and acceptance, after a preliminary examination, by a special examining board appointed by the Committee on Graduate Study.

Third Graduate Year.—The final year will be devoted largely to personal investigation along the lines of the thesis subject, under the direction of the member of the department in charge.

Library and Practical Facilities

The general university library contains the important recent books, and files of the more important educational magazines, both American and foreign. The collection of early American educational magazines and reports is also good. The special library of the department, consisting of about 8000 volumes, contains one of the most complete collections of American state and city school reports to be found in the United States, the library ranking probably third in this respect. It is also rich in old college and normal school catalogues and text-books, of much historical value. The collection of old and present-day school text-books is also large and valuable.

In practical facilities the department has good working connections with the State Normal School at San Jose, and with the public schools of the immediate vicinity. For more important studies by advanced students the large city school systems in the vicinity of the University can usually be made available.

The department is also provided with a research laboratory for use in connection with the Buckel Foundation. This is well equipped with the apparatus, blanks, and other materials used in mental and physical tests.

I. Elementary and Introductory Courses

[Open to any one with teaching experience, and to all others except first-year students.]

1. Public Education in America.—A study of some of the more important present-day problems in the organization and administration of public education in the United States, in the light of their historical development. An introductory course. Lectures, following a text, with assigned readings.

3 units, autumn quarter (Cubberley) MWF 11

2. Introduction to the Study of Education.—A study of typical phases of the organization and administration of public education, with a view to presenting such a body of information relating to the work of our public schools as the citizen and the teacher ought to have, and at the same time making the course an introduction to the various fields of education. Lectures, following a text, and assigned readings and reports.

3 units, winter quarter (Sears) MWF 11

3. Hygiene of the School Child.—A study of the physical basis of education, including such topics as growth, physical defects, health supervision, etc.

3 units, spring quarter (———) MWF 11

4. Educational Theory.—An introduction to a philosophy of education, construed as an integrated view of the conditions and purposes of educational effort: biological infancy, human endowment and culture, education in relation to the problems of social progress and conservation. Lectures, following a syllabus, with assigned readings.

5 units, spring quarter (Davidson) MTWThF 11

II. More Advanced Courses, but of a Somewhat General Nature.

[Open to those of teaching experience, and to third- and fourth-year students. In general, courses 1, 2, and 3 or 4 should precede these courses.]

10. Primary Education.—A study of the history of and institutions for the formal education of young children; provisions in other countries; the kindergarten in America; the reforms of Montessori and others; pedagogy of the primary-school period.

5 units (Davidson) [Not given in 1920-21]

12. Education and Character.—A study of the significance for education of the psychology of character. Growth and character; types and individual differences; principles of training; educative agencies.

5 units, winter quarter (Davidson) MTWThF 9

14. Intellectual Education.—A study of the significance for education

of the psychology of attention, interest, and thinking. Development; individual differences; principles of training; educative agencies.

5 units, winter quarter (Davidson) MTWThF 10

16. Hygiene of the School Plant.—A study of the fundamental problems involved in schoolhouse construction, including standards of construction and planning, unit cost, etc.

2 units, winter quarter (———) [Not given in 1920–21]

III. Courses Intended Primarily for Those Preparing to Teach in Secondary Schools

[Open to seniors and graduate students. Course 27 should precede course 28 by one quarter.]

20. Principles of Secondary Education.—A course dealing with the aims, purposes, and underlying principles of secondary education, intended for those preparing to teach in secondary schools, and required of all candidates for the California High School Recommendation. Open to seniors and graduate students only.

3 units, autumn and *spring quarters (Proctor) MWF 8

22. Administrative Problems in Secondary Education.—A number of practical problems relating to the administration of a secondary school, such as organization, curricula, teaching staff, community relationships, part-time education, etc., will be considered. A specific problem will be assigned for individual investigation by each student electing the course. Open to those who have had course 20 or teaching experience, and especially intended for those preparing for administrative work in the secondary field.

3 units, winter quarter (Proctor) MWF 8

25. Vocational Guidance in High Schools.—A course in the principles, methods, and literature of vocational guidance. Opportunities to assist in vocational surveys of communities and high schools will be provided, with a view to affording training valuable to those who desire to prepare themselves to undertake vocational guidance work in secondary schools.

2 units, winter quarter (Proctor) TTh 8

27. Methods and Management of Instruction.—A practical course in the methods and management of secondary instruction. The psychology of the high-school subjects will be considered, and opportunity for directed observation of expert secondary instruction will be given. This course is intended to be a preparation for practice teaching, and should be taken before course 28.

2 units, autumn and *spring quarters (Proctor) TTh 8

28. Practice Teaching.—Practice in the handling of classes and the giving of instruction, with accompanying conferences, six units of credit in such work being required of all inexperienced teachers, by the rules of the State Board of Education, for a California high school teacher's recommendation. This may be arranged for at the University, at the San Jose State Normal School, or at any other state normal school in California. Those who desire to do practice teaching should secure from the Secretary of the School of Education, or from the Director of Practice Teaching, a blank form of application for a practice teaching position, and fill out and file the same with the Director of Practice Teaching during the quarter preceding the one in which they desire to fulfill their practice teaching requirement. Prospective cadet teachers should confer in advance with Professor PROCTOR. Conference with all practice teachers required each week.

3 units, autumn, *winter, and *spring quarters (PROCTOR) Conference M 4:05-5

30. Mental Tests: Introductory Course.

IV. ADVANCED COURSES

[Intended primarily for teachers of some experience, and for students making Education a major or a minor. Open to such of junior standing or above.]

31. Education and Modern Social Problems.—A continuation of course 4, with particular attention to the demands made upon public education by students of modern social problems, and possible means of satisfying them.

5 units, summer quarter (DAVIDSON) MTWThF 8

32. Education and Character: Advanced.—A continuation of courses 12 and 14. Open to students who have had either of these courses or its equivalent.

4 units, spring quarter (DAVIDSON) Hours to be arranged

33a. Educational Psychology.—Original endowment; mental development; individual differences in relation to heredity, sex, and environment. General Psychology is a prerequisite, and Educational Statistics must accompany or precede.

4 units, autumn and *summer quarters (TERMAN) MTThF 11

33b. Educational Psychology.—Learning, formal discipline, work and fatigue. Prerequisites: General and Experimental Psychology, or their equivalents. Educational Statistics must accompany or precede.

4 units, winter quarter (TERMAN) MTThF 11

34. Educational Psychology: General Introductory Course.

35. Educational Statistics.—This course will deal with the theoretical and practical aspects of statistical methods as applied to education, including scales, units, and standards. The use of calculating instruments, calculating handbooks, and graphic methods will be demonstrated, and practice will be given in treatment of statistical data. In so far as possible the program will be adjusted to meet the needs of individual students specializing in mental measurements, experimental pedagogy, or educational administration.

4 units, autumn quarter (KELLEY) MTThF 8
3 units, *1st half, summer quarter MTWThF 8

36. Statistical Methods.—An advanced course dealing principally with correlational methods as applied to educational and mental tests.

4 units, winter quarter (KELLEY) MTThF 8

37. Mental Deficiency.—The physical and mental traits of the feeble-minded; heredity; medical types; psychological diagnosis; the conduct of special classes, etc. The course will involve visitation of institutions for defectives observation of special classes, and demonstration tests. A part of the work will necessarily be done away from the University.

2½ units, summer quarter (——)

38. History of Education in Europe.—A study of the development of educational practices and systems from the time of the Greeks, but with the main emphasis upon the post-renaissance period. The history of education considered as a phase of the rise and spread and progress of western civilization. A study of present-day problems in education in the light of their historical development, and a study of the history of practices and progress rather than the history of theory. Designed especially for those expecting to teach the history of education in normal schools and colleges. Study of text and sources.

4 units, winter and spring quarters (CUBBERLEY) TTh 4

39. History of Education in America.—A study of the evolution of American educational ideals and practices, with some emphasis upon their more important European antecedents, but with special reference to the origin and development of those features of our present-day practices which are most characteristically American. Lectures, following a text, with assigned readings, and the investigation of a special topic.

3 units (CUBBERLEY) [Not given in 1920-21]

40. State School Administration.—A study of the educational principles underlying the proper administration of school systems in states and counties, and involving a comparative study of the school laws and school systems of the various American states. The course includes a study of such topics as federal and state policy, forms of control, revenue

and its apportionment, the state and the teacher, the state and the child, private and sectarian education, and state oversight and control.

4 units, winter quarter (CUBBERLEY) MWF 10

42. Rural Education.—A study of the social and economic factors involved in the development of rural institutional life; how these explain the present status of the larger administrative and supervisory problems of rural education; and the principles and practical methods essential to the solution of these problems.

2 units (CUBBERLEY) [Not given in 1920-21]

44. Foreign School Systems.—A comparative study of the more important foreign state school systems, their policy of organization, ideals of work, methods of instruction, training of teachers, courses of study, statistics, and recent reforms.

3 units (———) [Not given in 1920-21]

45. City School Administration.—A study of the educational, financial, and administrative principles underlying the proper administration of school systems in cities, with a view to the establishment of principles of action. A thesis on some problem in city school organization or administration or a survey of some city school system required of each student.

4 units, autumn and *summer quarters (CUBBERLEY) MWF 10

46. School Surveys and Educational Diagnosis.—A study of the literature relating to school surveys and other forms of educational measurements, as a basis for the investigation of practical problems in school administration and supervision. How to organize and conduct a school survey, what to look for, how to collect and interpret data, and how to set forth the results of the investigation will be important features of the course.

5 units, winter quarter (SEARS) MTWThF 11

47. The Principal and His School.—A practical course, dealing with the organization and administration of a single school, the organization and supervision of instruction, school extension, community relationships, etc. Thesis on some administrative problem required of each student.

3 units (CUBBERLEY) [Not given in 1920-21]

49. Pedagogical Tests and Measurements.—A course dealing with the use and interpretation of pedagogical tests and scales in the administration and supervision of instruction, simple statistical and graphical methods, the significance of scores, and the diagnostic value of the results obtained.

3 units, winter quarter; 5 units, *summer quarter (KELLEY) MTThF 8

50. The Elementary School Curriculum.—A study of the principles underlying the organization of subject-matter for courses in the elementary school, including a critical examination of curricula, syllabi, and school texts in the light of their function in the teaching and administration of the curriculum.

5 units, summer quarter (SEARS) MTWThF 11

51. Organization and Supervision of Elementary Education.—A course dealing with the more important problems of organization, management, and supervision of the elementary school, including such topics as grade, departmental, group, and individual systems of class organization; typical promotion schemes; program making; time allotment; grades and marks; records and reports; attendance, and retardation.

4 units, spring quarter (KELLEY) MTThF 8

53. Criticism and Supervision of Instruction.—A few advanced students, who have had sufficient teaching experience, will be allowed to undertake the personal investigation, in the schools of the vicinity, of problems in instruction or supervision. Collateral reading and detailed written reports will be required. Enrollment only after conference with the instructor concerned.

1 unit, autumn, *winter, and *spring quarters (SEARS, PROCTOR)

54. Thesis Work.—In certain courses, students may be given an additional unit of credit on presentation of a satisfactory thesis on an assigned topic, embodying the results of independent work. The consent of the instructor is necessary before registering.

1 unit, any quarter.

V. GRADUATE AND SPECIAL COURSES

[Intended primarily for graduate students in Education and Psychology.]

55. Current Administrative Problems.—A study and discussion of current problems in the organization and administration of public education, with particular reference to problems in city school administration.

4 units, summer quarter (CUBBERLEY) TTh 4

56. American Teaching Practice.—An appraisement of the procedures employed in the teaching of the elementary school branches in the light of the available experimental and statistical studies bearing upon them. Arranged primarily for principals and supervisors.

4 units, summer quarter (DAVIDSON) Hours to be arranged

57a. Intelligence Tests and the Psychology of Endowment.—The first quarter will be devoted to a critical survey of the literature of mental tests, with special reference to the psychological principles of

measuring intelligence. Prerequisites: General and Experimental Psychology, and Educational Statistics.
4 units, autumn quarter (TERMAN) MTW 1-3

57b. Intelligence Tests and the Psychology of Endowment.—A continuation of 57*a*. During the second quarter practice will be given in mental testing and the treatment of data.
4 units, winter quarter (TERMAN) MTW 1-3

60. Seminar in Mental Test Problems.
4 units, spring and summer quarters (TERMAN)
(spring) MTW 1-3; (summer) MWF 2-4

62. Special Courses.—In addition to the listed courses, special work in independent investigation will be provided for students prepared to do such advanced work, the nature of the investigation being determined by the student's preparation and needs. The number of units of credit to be given is subject to individual arrangement. The members of the instructing staff stand ready to supervise independent investigations in the following fields:

(*a*) Problems in educational theory. (DAVIDSON)

(*b*) Problems in the history and organization of American education. (CUBBERLEY, SEARS)

(*c*) Problems in state, county, and city school administration. (CUBBERLEY, SEARS)

(*d*) Problems in the organization and administration of elementary and rural education. (SEARS)

(*e*) Problems in the organization and administration of secondary education. (PROCTOR)

(*f*) Problems in educational psychology and mental tests. (TERMAN)

VI. Courses for Teachers of Special Subjects

A number of special courses of instruction, and groupings of courses, designed to prepare teachers for special work in the public schools, have been arranged and are described in the Announcement of the School of Education (issued in June). These include courses designed to prepare commercial teachers, manual arts teachers, teachers of home economics (in connection with the Santa Barbara or San Jose State Normal Schools), teachers of physical training, and teachers of the various high school subjects.

VII. Courses in Other Departments

The following Teachers' Courses, in other departments, are designed for students preparing to teach special subjects in secondary schools, and are offered in connection with the preparation in the teaching majors and minors as described in the Announcement of the School of Education. Such courses are usually necessary for the Teacher's Recommendation, and may be counted to the extent of four and a half units as part of the work required in education. (See Announcement of the School of Education for further information.)

a. Teacher's Course in Chemistry.—[See Department of Chemistry.]
b. Teacher's Course in Drawing.—[See Division of Graphic Art.]
c. Teacher's Course in English.—[See Department of English.]
d. Teacher's Course in French.—[See Department of Romanic Languages.]
e. Teacher's Course in German.—[See Department of Germanic Languages.]
f. Teacher's Course in Greek.—[See Department of Greek.]
g. Teacher's Course in History.—[See Department of History.]
h. Teacher's Course in Latin.—[See Department of Latin.]
i. Teacher's Course in Oral Expression.—[See Department of English.]
j. Teacher's Course in Physics.—[See Department of Physics.]
k. Teacher's Course in Spanish.—[See Department of Romanic Languages.]

DIVISION OF GRAPHIC ART

Arthur Bridgman Clark, Professor.
Chloe Lesley Starks, Assistant Professor.
Emil Grebs, Rudolph Schaeffer, Instructors.

The work aims primarily to prepare students for positions as teachers of drawing and art in secondary schools. Many of the courses are also suitable for the practical and general cultural needs of students in other departments.

Intending teachers of art may register with Graphic Art as their major subject. The art work of such students may be somewhat as follows, although the particular year when a course shall be taken is often immaterial, and courses may be spread more evenly over the four years than indicated.

First Year.—Autumn quarter; Still-Life, 4 units; Perspective, 5 units. Winter quarter: Linear Drawing, Lettering (Engineering 1, 2), 2 units; Organic Form, 5 units. Spring quarter: Design, 4 units.

Second Year.—Autumn quarter: Renaissance Painters, 3 units; Pottery, 5 units. Winter quarter: Living Painters, 3 units; Art of the Home, Metal Work, or Color Design, 5 units. Spring quarter: Textiles, or Pottery, 5 units.

Third Year.—Autumn quarter: Commercial Art, 5 units. Winter quarter: Metal Work, or Art of the Home, 5 units. Spring quarter: Landscape, or Machine Drawing, 5 units.

Fourth Year.—Autumn quarter: Commercial Art, 5 units. Spring quarter: Pottery, Textiles, Landscape, or Machine Drawing, 3 units. Teacher's Course, 4 units.

Fifth Year.—Autumn and Winter quarters: Advanced design, or Commercial Art, 5 units. Special courses in Art Education and Thesis, 10 units. Spring quarter: Advanced Textiles, Pottery, or Landscape, 5 units.

Requirements for Graduation

A. As Preliminary to a Fifth Year.—50 units in Graphic Art; 21 to 51 units (the completion of all except 9 units) of a teaching major or two teaching minors, other than Graphic Art; *9–13 units in Education applicable to the Secondary Teacher's Certificate. (180 units as a total in all courses.)

(The requirements of various departments for teaching majors and minors are set forth in the Announcement of the School of Education, pp. 39–58.)

B. Including Special Certificate of the Manual and Fine Arts Type Courses.—67 units in Graphic Art and Drafting; *23 units in Education; 30 units (15 each in any two) teaching majors or minors; 60 units of any course in the University.

(See Announcement of the School of Education, pp. 29–30, and 59–60. This certificate permits the holder to teach only the special subjects in which he is recommended and not the so-called "regular" subjects of the high school, not even in part.)

C. Master's Degree, Including Secondary Teacher's Certificate.—One graduate year including the following: 26 units, including thesis, in Graphic Art; *11 units in Education (or enough with courses taken in previous years to make the required 23 units); 9 units in the teaching

* Course 10 in Graphic Art may count as either Education or as Graphic Art, but not as both in the same schedule.

major or minors (other than in Graphic Art), or enough with the courses taken previously to complete these majors or minors.

1. Still-Life.—Fundamental principles in blocking, proportion, and light and shade; materials: charcoal and colored crayon. Open to all students.

3 to 5 units, autumn quarter (STARKS) MTWThF 1:05–4:05

2. Landscape.—Working out-of-doors in pencil, charcoal, and colored crayon. Open to all students who have had the equivalent of course 1.

3 to 5 units, spring quarter (STARKS) MTWThF 9–12

3. Organic Form.—Drawing shells, leaf sprays, animal forms, etc., with reference to discipline in accuracy, and the perception of decorative arrangement. Preparation for course 4. Open to all students.

3 to 5 units, winter quarter (STARKS) MTWThF 1:05–4:05

4a. Design.—Structural design, attention to expression of structure, space filling, borders, squares, surface patterns, etc., in application to architecture, handicrafts, and furnishings. Three units of technical work, preferably course 3, a prerequisite. (May be taken with advanced problems by fourth- and fifth-year students.)

4 units, spring quarter (CLARK) MTWTh 1:05–4:05

4b. Design in Color.—The design school of recent development, based upon or developed from a study of the peasant art of various European peoples. The aim of the course is to develop creative expression in design and color. A series of problems will be given, setting forth principles of design composition and color harmony. Each problem to be rendered by the student directly with the brush in tempera color.

Beginning with basic geometric forms, the student is led to interpret flowers, birds, and a diversity of Nature's forms. This course is prerequisite to Textiles, *7d*.

3 to 5 units, winter quarter (STARKS)
Lec. TTh 8, MTWThF 1:05–4:05; Lab. To be arranged
5 units, summer quarter (SCHAEFFER) MTWThF 9–12

5. Art of the House.—The course is a systematic study of the fundamental principles which underlie taste, convenience, and economy in house designing and furnishing. The principles and necessity of civic planning are also given brief consideration. The subject matter treated is of such universal interest and importance that the exercises assigned are kept well within the accomplishment of earnest students even though they may have had little or no previous training in drawing. However, a great deal of drawing, chiefly with the pencil, is required in the course as the most efficient means to the understanding of design in proportion, line and surface, and sensitiveness to beauty of all kinds. These draw-

ings are made in part with the T-square on a drafting board, in part by tracings from cuts and photographs. Each member of the class is furnished with a large number of photographs and blue prints of plans with which to illustrate his notebook. Drawings and redesignings are made from this material. The first half deals with types of exteriors and their design and plans; the second half with interior treatment, furniture, yard, and civic planning. A few trips of observation will be made in the suburban towns toward San Francisco. Open to all students.

5 units, winter and *summer quarters (CLARK) MTWThF 1:05–2:05

6a. Lectures on Painters of the Renaissance from Giotto to Velasquez.—Open to all students.

3 units, autumn quarter (CLARK) MWF 8

6b. Lectures on Painters of the Nineteenth Century and of the Present Time.—Open to all students.

3 units, winter quarter (CLARK) MWF 8

7a. Handicrafts.—Pottery, modeling, casting, glazing, and firing tiles, bowls, vases, etc. Open to students who have had three units of technical work in drawing or design.

3 to 5 units, autumn and *summer quarters (CLARK) MTWThF 1:05–4:05

7b. Handicrafts.—Metal work, making trays, bowls, book supports, etc., in sheet copper; and jewelry, in silver and semi-precious stones. Open to all students who have had three units of technical work in drawing or design.

3 to 5 units, winter quarter (CLARK) MTWThF 1:05–4:05

7c. Handicrafts.—Tooled leather, mats, card cases, etc. This work may be substituted in part for work in pottery or metal work.

7d. Handicrafts.—Textiles. The decoration of textiles in articles of house use, and personal belongings. Stenciling, block-printing, decoration of textiles by dyeing, and embroidering. Open to students who have had course 4*b* or its equivalent.

3 to 5 units, spring quarter (STARKS) MTWThF 1:05–4:05

8. Scientific Perspective.—A series of problems drawn with instruments, and involving the various principles of perspective and shades and shadows. The latter part of the course involves making drawings from actual buildings. Open to all students.

5 units, autumn quarter (CLARK) MTWThF 11

9. Science Drawing.—A course designed to assist students in scientific illustration. It includes the drawing of simple scientific subjects in pen outline, line and stipple shading, wash, line and wash. Especial

attention is paid to the needs of individual students. Open to science students on advice.

3 units, autumn and *winter quarters (STARKS) 8–12 by arrangement

11. Commercial Art and Lettering.—Poster work, a study of the requirements of commercial art, technical difficulties and limitations, studies in lettering for artistic and commercial needs, many practical problems of commercial and printing arts. Open to students of considerable previous training in drawing.

5 units, autumn quarter (GREBS) MTWThF 1:05–4:05

12. Seminar.—Discussion of special topics and current literature in art education. Open to senior and graduate students only.

1 unit, autumn quarter (CLARK) T 4–5

13. Special Courses in Art Education.—Advanced work in connection with the subject matter of courses 4, 5, 7, 9, 10, and 11, will be arranged for graduate students.

Autumn and winter quarters (CLARK) By arrangement

ENGINEERING

A. ENTRANCE SUBJECTS

Entering students whose major work is to be in any engineering department should be thoroughly prepared in elementary mathematics, with entrance credit in algebra (at least one and one-half units), plane geometry, and plane trigonometry, in order to be able to take the first year's work in applied mathematics for engineers. Furthermore, it is advisable for them to have entrance credit in mechanical drawing.

Students who expect to complete the requirements for graduation from the Civil Engineering Department in four years, should enter with credit for two high-school units in one foreign language, one unit in chemistry, one unit in biological science, and one unit in history, in addition to the foregoing preparation.

B. GENERAL COURSES

I. APPLIED MATHEMATICS

[See courses announced by Department of Applied Mathematics.]

II. GENERAL TECHNICAL COURSES

1. Linear Drawing.—A training in the use of drafting implements to enable the student to construct accurate pencil drawings and make clean-cut ink lines. Open to all students, and required of those whose

major subject is in Civil, Mechanical, Electrical, or Chemical Engineering, or in Geology and Mining, whether or not they have entrance credit in mechanical drawing. This requirement is waived, however, for a student who satisfies the instructor that he has had the equivalent of this course, by submitting certified work in linear drawing or by passing a special examination. The instruments and materials for this course cost from thirty to forty dollars.

1 unit, autumn, *winter, and *spring quarters (Blee) W 1:05–4:05, or S 9–12

2. Lettering.—A training in engineering lettering and title making. Open to all students, and required of those whose major is in Civil, Mechanical, Electrical, or Chemical Engineering, or in Geology and Mining, whether or not they have entrance credit in mechanical drawing. This requirement is waived, however, under certain conditions specified under Linear Drawing, above.

1 unit, autumn, *winter, and *spring quarters (Blee) W 1:05–4:05, or S 9–12

3. Descriptive Geometry.—Open to students who have completed or are taking Engineering 1 and 2, or have had their equivalent. It is required of students whose major is in Civil, Mechanical, Electrical, or Chemical Engineering, or in Mining and Metallurgy.

This course deals with principles and methods used in making with mathematical exactness drawings of objects and geometrical magnitudes, and in solving problems involving their space relations, without going into details of shop notes, field notes, machine drawing and design, and topographic and geologic mapping, to which subjects it serves as a preliminary.

The principles embodied in the course are limited to those pertaining to the "method of choosing new projection planes," the method almost universally used in Engineering practice.

3 units, winter quarter (Cutter)
Rec. Th 8 or 10; Dft. MT 1:05–4:05, or ThF 1:05–4:05

10. Applied Mechanics.—Lectures and recitations. Strength and elastic properties of the ordinary materials of engineering construction. Simple tension, compression, and shear. Flexure, with application to simple, continuous, and non-homogeneous beams. Long columns, torsion, repeated stress, sudden stress, resilience, etc. Laboratory: Testing strength and elastic properties of materials and structures. Open to students who have completed courses 3*a* and 3*b* in Applied Mathematics.

5 units, autumn quarter (Moser)
Lec. MWF 9; Lab. MWF 10–12, or TTh 9–12, or MT 1:05–4:05

11. Applied Mechanics.—Continuation of Engineering 10.

5 units, winter quarter (Moser)
Lec. MWF 9; Lab. MWF 10–12, or TTh 9–12, or MT 1:05–4:05

12. Hydraulics.—Lectures and recitations. Fluid pressure and equilibrium, flow of water through orifices, over weirs, in open and closed conduits. Laboratory. Calibration of instruments. Measurement of pressure, velocity, and flow and friction loss of water under various conditions. Open to students who have completed courses *3a* and *3b* in Applied Mathematics.

5 units, spring quarter (Moser) Lec. MWF 9; Lab. MWF 10–12, or TTh 9–12, or MT 1:05–4:05

Note.—See also Hydraulic courses listed under Mechanical Engineering.

Laboratory Fees.—Courses 10 and 11, $1 each; 12, $2.

CIVIL ENGINEERING

Charles David Marx, John Charles Lounsbury Fish, Leander Miller Hoskins, Charles Benjamin Wing, Professors.
Clarence Earl Blee, Charles Moser, Earl Charles Thomas, Assistant Professors.

[Beginning with the autumn quarter, 1920-21, some modification will be made in courses 20, 21, 40, to conform to the four-year schedule outlined below.]

A. Topographic Engineering

19. Map Reading.—Interpretation of maps, including topographic maps. Open to students who know how to solve right triangles.

1 unit, autumn, *winter, and *spring quarters (Blee) W 1:05–4:05, S 9–12

20. Elementary Surveying.—Ten recitations: First principles; contours; coördinates; transit lines; locating details; telescope, vernier, and magnetic needle; stadia; leveling; areas. Field (90 hours): Exercises with tape, pocket instruments, transit and level; differential and profile levels; pacing and compass traverse; mapping, sketching, and topography with traverse board; traverse by azimuth and by double deflections; stadia traverse, stadia topography. Office (30 hours): Map reading; inter-relations of bearings, azimuths, and deflections; plotting and adjusting traverses; coördinates; areas by scaling, planimeter, and double longitude.

Open to students who have completed Engineering 1 and 2 and Applied Mathematics 1*a*, and to others only by permission. Required of students whose major is Civil Engineering or Geology.

5 units, autumn and *spring quarters (Blee) Rec. Th. 9; Field and Dft. MTW 1:05–4:05 (or ThF 1:05–4:05 and S 9–12), and 3 hrs. Th 1:05–4:05, or by arrangement.

21. Advanced Surveying.—Ten recitations: Topography, earthwork computation, topographic projection; introduction to city, mine, land, hydrographic and photographic surveying; map projections. Field and office (120 hours): Class topographic survey of about three hundred acres of foothill land on campus; base line, triangulation, spirit and trigonometric leveling, sun observations; topographic details by three methods; hand-level cross-sections from stationed traverse, transit and stadia, plane table and stadia. Each student plots and compiles a topographic map of the area. Open to those who have credit for course 20, and to others only by permission of the instructor. Required of Civil Engineering majors.

5 units, winter quarter (Blee) Rec. Th. 9; Fld. and Dft. MTW 1:05–4:05 and S 9–12 (or WThF 1:05–4:05 and S 9–12)

23. Special Surveying.—Special courses intended for students who have completed course 20, or who have had practical experience in surveying, and who are interested in continuing some particular branch of surveying. Open only by permission.

1, 2, or 3 units, autumn, *winter, and *spring quarters (Blee) By arrangement

B. Engineering Economics

30. Engineering Economics.—The problem of economic selection, interest, sinking funds, first cost, salvage value and depreciation, elements of cost of service (including amortization), methods of estimating, basis of economic comparison, procedure in economic selection. (Written recitations and problems.)

3 units, spring quarter (Fish) Rec. MWF 8

31. Engineering Estimates and Reports.—Each student makes preliminary plans and estimates in connection with two or more structures proposed for a stated service, makes economic comparison and choice based on the estimated costs, and prepares a report on the object, conditions, methods, and result of his investigation. The course offers training in analyzing problems of choosing structures, logically planning steps of an engineering investigation, executing the steps (including use of references, of cost data, of methods of estimating, and arrangement and record of computation), and writing reports. Roughly, one-third of the time is devoted to looking up references, one-third to drawing and computing, and one-third to writing and revising the report. Open to those who are taking or have completed course 30, and to others by permission.

1 to 5 units, autumn, *winter, and *spring quarters (Fish) By arrangement

C. Railroad Engineering.

40. Railroad Surveying.—Ten written recitations: Reconnaissance, preliminary, location, and construction surveys; simple, compound, spiral, and vertical curves; turnouts; volume computation. Field and office (120 hours): Exercises in running simple curves; algebraic and graphic solution of curve and volume problems; railroad preliminary survey by entire class; plotting preliminary map and profile. Open to those who have credit in course 21, and to others only by permission of instructor. Required of Civil Engineering majors.

5 units, spring quarter (Fish)
Rec. T 9; Dft. and Fld. MTW 1:05–4:05, and 3 hours by arrangement

41. Advanced Railroad Surveying.—Ten written recitations: Paper location; volume, haul, overhaul; economic distribution. Field and office (120 hours): Paper location and alignment notes based on preliminary map of course 40; running center line in field, taking levels and earthwork cross-sections; plotting location profile and cross-sections; calculating volume and haul, and making economic distribution of material with aid of mass curve. Open to those who have credit for course 40, and to others only by permission of instructor.

5 units, autumn quarter (Fish)
Rec. T 9; Dft. and Fld. MTW 1:05–4:05, and 3 hours by arrangement

42. Special Railroad Surveying.—Courses arranged to meet special needs of students who have completed course 41 above, or have had considerable experience in railroad surveying. (Field work can be done only when two or more students elect to pursue the same work.) Open only by permission.

1 to 5 units, autumn, *winter, and *spring quarters (Fish) By arrangement

43. Railroad Construction.—Field or office work assigned to individuals, according to their needs, along one or more of the following lines: (1) Excavating methods and plants. (2) Situation and drainage surveys; preliminary plans and estimates; choice of structure and site; working drawings; staking out; inspection; estimates of work done. (3) Collecting, recording, and filing information; instructions and reports. A formal report is required on each engineering problem assigned. Open to students who have completed courses 30 and 41, and by permission to students who have completed course 41.

1 to 5 units, autumn, *winter, and *spring quarters (Fish) By arrangement

44. Railroad Location.—Locomotive tractive force and resistances thereto, velocity profile, momentum grade. Traction problems involving inter-relation of train weight, grade, speed, and characteristics of locomotive. Value of change in distance, curvature, rise and fall, and

ruling grade, based on analysis of operating expenses. Pusher grades, balanced grades for unequal traffic and for adjacent divisions. Prerequisites: courses 30 and 41.

5 units, winter quarter (Fish) By arrangement

45. Railroad Reconnaissance.—An examination of country for feasible routes between two designated points. Collection and reduction of data for determining the relative merits of two or more feasible routes, and for estimating the promise of a road proposed to be built on the most favorable route. Prerequisites: Course 30, 31, 43, and 44.

5 to 10 units, autumn, *winter, and *spring quarters (Fish) By arrangement

D. Structural Engineering.

50. Elements of Design.—(1) Materials (see under Metallurgy 1). (2) Analytical and graphical determination of stresses in simple structures. (3) Investigation of distribution of stresses in structural details. Open to students who have completed Engineering 1, 2, and 3, and have taken or are taking Engineering 10 and 11 and Metallurgy 1.

3 units, autumn quarter (Wing) WThF 1:05–4:05

51. Elements of Design.—(1) Wood, stone, brick, lime, cement, etc., studied from engineering standpoint. (2) Bearing power of soils, distribution of pressure, and details of design of simple sub-structures. (3) Designs, working drawings, bills of materials, and estimate of cost of some simple structure, such as a mill building or highway bridge. (4) Testing physical properties of cement and other masonry materials. Prerequisite: Course 50.

5 units, winter quarter (Wing, Moser)
Lec. MWF 11; Dft. and Lab. WThF 1:05–4:05

52. Elements of Design.—This course completes the work undertaken in course 51.

5 units, spring quarter (Wing, Moser)
Lec. MWF 11; Dft. and Lab. WThF 1:05–4:05

53. Elements of Design.—A short course to meet the requirements of students taking their major in Mining, Mechanical, Electrical, or Chemical Engineering. Special applications are made to hoisting and conveying structures, mill buildings, and central station buildings. Prerequisites: Engineering 1, 2, 3, 4, 10, and 11, and Metallurgy 1.

3 units, quarter by arrangement (Wing) By arrangement

54. Structural Design.—Determination of stresses in modern types of bridges, including cantilever and swing spans, masonry arches, and arch ribs; discussion of most economical types, spans and dimensions of

bridges and bridge members; study of methods of constructing sub-aqueous sub-structures, shop methods, erection, inspection of material, specifications, and other factors influencing the design of structures. Designs are made by each student to fulfill actual conditions. Prerequisite: course 52.

5 units, autumn quarter (WING) Lec. TTh 10; Dft. WThF 1:05–4:05

55. Structural Design.—Continuation of course 54.

5 units, winter quarter (WING) Lec. TTh 10; Dft. WThF 1:05–4:05

56. Structural Design.—Continuation of course 55.

3 units, spring quarter (WING) By arrangement

E. Hydraulic Engineering

60. Water-Supply Engineering.—Sources of supply. Collection and storage of water for water supply of towns or for irrigation. Settling, filtering, conducting, and delivering of water, including the study and design of all accessory works. Prerequisites: Engineering 3, 4, 10, 11, and 12, and Civil Engineering 51 and 52.

5 units, autumn quarter (MARX) Lec. MTWThF 10; Dft. MTWThF 1:05–4:05

61. Water-Supply Engineering.—Continuation of course 60.

5 units, winter quarter (MARX) Lec. MTWThF 10; Dft. MTWThF 1:05–4:05

62. Water-Supply Engineering.—Continuation of course 61.

5 units, spring quarter (MARX) Lec. MWF 10; Dft. MT 1:05–4:05

63. Sanitary Engineering.—Including sewerage of towns and drainage of lands. Special attention will be given to the study of all municipal sanitation problems, such as removal of sewage, destruction of garbage, construction, maintenance, and sweeping of streets and pavements. Prerequisite: course 62.

10 units, spring quarter (MARX) By arrangement

64. Construction of Canals, River and Harbor Improvements.—Lectures and designing as per arrangement. Prerequisites: Engineering 12 and Civil Engineering 51 and 52.

3 units, autumn, winter, and spring quarters (MARX) By arrangement

65. Technical Seminary.—Study of German and French technical journals. Open only to fourth-year students in Civil Engineering.

3 units, autumn, *winter, and *spring quarters (MARX) By arrangement

Laboratory Fees.—Courses 20, 21, $4 each; 40, 41, $3 each; 51, $2.

A Four-Year Curriculum in Civil Engineering

The following schedule assumes that the student enters with the preparation specified under the department heading "Engineering" and the subhead, "A. Entrance Requirements."

The asterisk (*) indicates that in special cases the department may accept, as a substitute for the course so marked, some other course.

Department and No.	First Year — Subject	Units: Autumn	Winter	Spring
Engineering 1	Linear Drawing	1		
Engineering 2	Lettering	1		
C. E. 19	Map Reading	1		
	Language, Literature, or Formative Art		3	3
Appl. Math. 1*a*	Elementary Analysis	5		
Appl. Math. 1*b*	Elementary Analysis		5	
Appl. Math. 2*a*	Differential Calculus			5
	Citizenship	4	4	4
C. E. 20	Elementary Surveying	3		
C. E. 21	Advanced Surveying			4
Engineering 3	Descriptive Geometry		3	
		15	15	16
	Physical or Military Training	1	1	1
	Second Year			
Physics 2	General Physics	3	3	3
Appl. Math 2*b*	Integral Calculus	5		
Appl. Math 3*a*	Theoretical Mechanics		5	
Appl. Math 3*b*	Theoretical Mechanics			5
	General History	3	3	3
C. E. 40	Elementary Railroad Surveying	4		
Geology 1	Dynamical Geology*		5	
M. E. 12	Machine Drawing*			3
		15	16	14
	Physical or Military Training	1	1	1
	Third Year			
English 2	English Composition	3	3	
	Language, Literature, or Formative Art			3
Engineering 10	Applied Mechanics	5		
Engineering 11	Applied Mechanics		5	
Engineering 12	Hydraulics			5
C. E. 50	Elements of Design	5		
C. E. 51	Elements of Design		5	
C. E. 52	Elements of Design			5
Economics 3	Elementary Accounting	3		
M. E. 23	Testing of Engines*		3	
C. E. 30	Engineering Economics			3
		16	16	16
	Fourth Year			
C. E. 54	Structural Design*	5		
C. E. 55	Structural Design*		5	
C. E. 60	Water-Supply Engineering*	5		
C. E. 61	Water-Supply Engineering*		5	
C. E. 62	Water-Supply Engineering*			5
C. E. 63	Sanitary Engineering*			5
M. E. 36	Pumping Machinery*		3	
E. E. 2, 22	Electricity in Engineering*		3	
E. E. 3, 23	Electricity in Engineering*			3
		10	16	13

ELECTRICAL ENGINEERING

HARRIS JOSEPH RYAN, Professor.
JAMES CAMERON CLARK,† Associate Professor.
HENRY HARRISON HENLINE, ARNOLD KELLER, Instructors.

[With the coöperation of Professor Moreno of the Department of Applied Mathematics.]

The department offers courses of instruction for three groups of engineering students.

I. GENERAL GROUP.—Courses 2, 3, 22, and 23, Electricity in Engineering, are offered especially for fourth-year students in civil, mining and chemical engineering without prerequisites.

II. DYNAMIC GROUP.—Courses 4, 5, 24, 25, and 26, Electrical Machinery, and 7, Electrical Engineering—General Practice, with Physics 2 as prerequisite, are open to all third- and fourth-year students and are offered especially for students in mechanical engineering.

III. ELECTROTECHNIC GROUP.—The department admits as major students only those who have been granted the Stanford A. B. degree in engineering and who have completed the department's courses 4, 5, 24, 25, 26, 7, and 8; and those graduates of other institutions who present corresponding credits. Major students are recommended for the degree of Engineer in Electrical Engineering upon satisfactory completion of Electrical Engineering courses 9, 10, 19, 40, and 41, Physics 8 and 16 and Applied Mathematics 8 (33 to 39 units), and electives as approved (6 to 21 units); total, 45 to 54 units.

(It has been found desirable to change the numbers of all courses in the department in accordance with the following plan: Lecture and recitation courses are numbered from 1 to 20, and laboratory courses from 21 to 40, the latter numbers being determined by the addition of 20 to the numbers of the corresponding lecture courses, if any. Old numbers are given in parentheses following the new numbers.)

2. Electricity in Engineering (formerly course 1, lecture, winter quarter).—An abridged course in the industrial applications of electricity, intended for non-electrical engineering students. Prerequisites: First seven quarters of any of the Stanford engineering curricula and registration in Electrical Engineering 22.

1 unit, winter quarter (HENLINE) T 10

† On leave of absence, 1919-20.

3. Electricity in Engineering (formerly course 1, lecture, spring quarter).—Continuation of course 2. Prerequisites: courses 2 and 22, and registration in course 23.

1 unit, spring quarter (HENLINE) T 10

4. Electrical Machinery (formerly course 2*a*, spring quarter).—Characteristic technology of electric and magnetic phenomena, introductory study of meters, machines, and auxiliaries. Prerequisites: Applied Mathematics 1, 2, 3, Engineering 1, 2, 3, 4, 10, 11, Physics 2*a*, 2*b*, 2*c*, 2*d*, and registration in Electrical Engineering 24.

2 units, spring quarter (KELLER) TTh 9

5. Electrical Machinery (formerly course 2*a*, autumn quarter).—Continuation of course 4. Prerequisites: courses 4 and 24, and registration in course 25.

2 units, autumn quarter (KELLER) TTh 9

7. Electrical Engineering (formerly course 4).—A course in general practice relating to equipment and methods as affected by the requirements of economics, reliability, and safety. Prerequisites: courses 4, 5, 24, and 25.

3 units, winter quarter (RYAN) MWF 8

8. Electric and Magnetic Circuits (formerly course 5).—Class work; essentially a problem course. Prerequisites: courses 7 and 26.

3 units, spring quarter (HENLINE) MWF 11

9. Electrical Engineering Design (formerly course 6).—(Predetermination of Electrical Machinery Performance.) Class and problem work extending the studies begun in course 8. Prerequisites: courses 7 and 8.

3 to 5 units, autumn quarter (HENLINE) By arrangement

10. Advanced Electrotechnics (formerly course 7).—A course developed with particular reference to the study of the problems of long-distance transmission of energy. Lectures and problems. Prerequisites: courses 26, 7, 8, and 9, and Applied Mathematics 8.

The course is given with the coöperation of the Departments of Physics and Applied Mathematics, the following officers of instruction participating: ROGERS (Physics), MORENO (Applied Mathematics), RYAN (Electrical Engineering).

4 units, winter quarter (RYAN) By arrangement

11. Electrical Engineering Practice (formerly course 8.)—Guidance for the individual in the study of the Transactions of the American Institute of Electrical Engineers and other literature of practice. Prerequisites: courses 9 and 10.

5 units, spring quarter (RYAN) By arrangement

19. Seminary (formerly course 10).—A weekly conference for the discussion of current electrical engineering literature and of special topics. Prerequisites: courses 7 and 8.
1 unit, autumn, winter, and spring quarters (Ryan) By arrangement

22. Electricity in Engineering (formerly course 1, laboratory, winter quarter).—A laboratory course to accompany course 2. Prerequisite: registration in course 2.
2 units, winter quarter (Henline) F 1:05–4:05 or S 9–12

23. Electricity in Engineering (formerly course 1, laboratory, spring quarter).—A laboratory course to accompany course 3. Prerequisite: registration in course 3.
2 units, spring quarter (Henline) F 1:05–4:05 or S 9–12

24. Electrical Machinery (formerly course *2b*, spring quarter).—A laboratory course to accompany course 4. Prerequisite: registration in course 4.
3 units, spring quarter (Keller) MTW or Th 1:05–4:05

25. Electrical Machinery (formerly course *2b*, autumn quarter).—A laboratory course to accompany course 5. Prerequisites: registration in course 5.
3 units, autumn quarter (Keller) MTW or Th 1:05–4:05

26. Electrical Machinery (formerly course 3).—A laboratory course in the characteristic performance of standard electrical machinery and auxiliary apparatus. Prerequisites: courses 4, 5, 24, and 25.
4 units, winter quarter (Henline) MTW or Th 1:05–4:05

40. High Voltage Laboratory Practice and Research (formerly course 9).—Prerequisites: courses 4, 5, 24, 25, *26*, and 7, 8.
3 to 5 units, autumn quarter (Ryan, Henline) By arrangement

41. Thesis (formerly course 11).—Subjects as approved to suit the needs of the individual. Prerequisites: courses 7 and 8.
4 units, winter quarter; 5 units, spring quarter (Ryan, Henline)

The Stanford Branch of the American Institute of Electrical Engineers is an organization authorized by the Institute and maintained by the members of the graduating class for the discussion of the Journal of the Institute, and of other topics as assigned, and the review of current electrical literature.

Laboratory Fees.—$1 per unit of university credit.

Syllabus Fees.—Applicable to syllabus, lantern slides, and charts; 50c to $1 per course section.

MECHANICAL ENGINEERING

William Frederick Durand, William Rankine Eckart,† Everett Parker Lesley, Guido Hugo Marx,‡ Professors.

Charles Norman Cross, Lawrence Edminster Cutter, Horatio Ward Stebbins, Assistant Professors.

Boynton Morris Green, Harold Farley Elliott, Acting Instructors.

Robert Henry Harcourt, James Bennett Liggett, Theron James Palmateer, Edward John Stanley, Teaching Specialists.

The following courses constitute the required work of a five years' curriculum leading to the degree of Mechanical Engineer. Students successfully completing the first four years of this curriculum with sufficient additional grade points for graduation will be granted the degree of Bachelor of Arts. It is expected that the supplementary courses necessary in order to obtain the number of grade points required for graduation will be elected in considerable degree among the other engineering courses offered in the department.

First Year—Applied Mathematics 1 (10 units); Applied Mathematics 2 (5); Chemistry 1, 3, and *b* (9); Machine Sketching, M. E. 11 (3); Shopwork, M. E. 1 and 3 (8); Industries, M. E. A (3).

Second Year—Applied Mathematics 2 (5 units); Applied Mathematics 3 (10); Physics 2*a* and 2*b* (8); Linear Drawing and Lettering, Engineering 1 and 2 (2); Descriptive Geometry, Engineering 3 (3); Elementary Machine Drawing, M. E. 12 (3).

Third Year—Applied Mechanics, Engineering 10 (5 units); Elementary Hydraulics, Engineering 12 (5); Physics 2*c* and 2*d* (8); Metallurgy 1 (3); Shopwork, M. E. 6 (4); Machine Design, M. E. 13 (8); Electrical Machinery, E. E. 4, 5, 24, and 25 (10).

Fourth Year—Heat Engines, M. E. 32, 33 (8 units); Technical Reports, M. E. 31 (3); Mechanical Laboratory, M. E. 23 (3); Machine Design, M. E. 14 (8); Electrical Engineering, E. E. 7 and 26 (7); Shopwork, M. E. 7 (3).

Fifth Year.—Shop Administration, M. E. 10 (4); Advanced Machine Design, M. E. 16 (4), Mechanical Laboratory Work, M. E. 24, 25 (6); Applied Thermodynamics, M. E. 34 (3); Central Power Stations, M. E. 35*a* (3); Hydraulic Machinery and Power Stations, M. E. 35*b* (5); Pumping Machinery, M. E. 36 (3).

The above courses represent the requirement for the student entering with full entrance credit including Higher Algebra, Trigonometry,

† Absent on leave, 1919-20.
‡ Absent on leave, winter and spring quarters, 1919-20.

High School Chemistry, and Woodworking. For those not bringing this measure of entrance credit the requirements will be correspondingly greater. There will be, in the usual case and especially for the student permitted to carry more than the normal number of 15 units registration, a considerable amount of additional time available for elective work in the various engineering departments, or in other departments of the University.

1. Forge Practice.—Three laboratory periods and one lecture per week. Required of Mechanical Engineering students.

4 units, autumn, *winter, *spring, and *summer quarters (HARCOURT) Lec. S 9

3. Foundry Practice.—Three laboratory periods and one lecture per week. One quarter (4 units) required of Mechanical Engineering students.

4 units, autumn, *spring, and *summer quarters (LIGGETT) Lec. S. 9

5. Woodworking (prerequisite for M. E. 6).—Three laboratory periods per week. One quarter (3 units) required of students not having entrance credit in woodworking.

3 units, *winter, *spring, and *summer (STANLEY)

6. Pattern Making.—Three laboratory periods and one lecture per week. One quarter (4 units) required of Mechanical Engineering students.

4 units, *winter, *spring, and *summer quarters (STANLEY) Lec. S 8

7. Elementary Machine Shop Practice.—Two laboratory periods and two lectures per week. Intended for upperclassmen only. One quarter (3 units) required of Mechanical Engineering students. Prerequisites: M. E. 1 and 3.

3 units, autumn, *winter, and *spring quarters (PALMATEER) Lec. S 9

8. Advanced Machine Practice.—One to four laboratory periods per week. Prerequisite: M. E. 7.

1 to 4 units, autumn, *winter, and *spring quarters (PALMATEER)

10. Shop Administration.—A course of lectures on workshop organization and administration, factory accounting, wage systems, selection of machinery, factory methods, etc. Prerequisites: courses 1 to 7 inclusive.

4 units, winter quarter (LESLEY) MTWTh 10

11. Freehand Machine Drawing. — Practice in making freehand sketches of machine parts, and their dimensioning in practical form for use in the shop, the sketches being made according to the principles of orthographic projection. The aim is to train the student in the reading of machine drawings through making a considerable number of sketches

from actual machines and machine parts, and at the same time to familiarize him as much as possible with the actual machine parts. Open to all students, and required of students in Mechanical Engineering. (Nine hours a week.)

3 units, autumn and *spring quarters (CUTTER) MTWThF 1:05–4:05

12. Elementary Machine Drawing.—Practice in making working drawings of machine parts, and in making tracings from these drawings. The purpose of the course is not only to train the student in the technique of drafting and dimensioning, but also to familiarize him with the elements of machines, and, therefore, no drawings are made from copy, but all are made from the student's own sketches of the actual model. (Six or nine hours a week in drafting room; three hours work for one unit credit.) Prerequisite: courses 1, 2, and 3 in Engineering, or their equivalents; and, for Mechanical Engineering students, course 11 in Mechanical Engineering.

2 or 3 units, autumn and *spring quarters (CUTTER) MTWThF 1:05-4:05

13. Elementary Machine Design.

a. Function of machines; motion, force, and work in machines; analysis of mechanism; velocity, acceleration, and effort diagrams; parallel motions; cams; ratchets; toothed wheels; valve gear analysis and design. The aim is, not merely to present a course in pure mechanism, or kinematics, but also—by the introduction of the consideration of force, work, and energy, as well as motion—to show the purposes for which the mechanisms are used and the manner in which they function. (Three hours a week, lectures and recitations, winter and spring quarters.)

3 units.

b. Drafting course applying the principles treated in *a.* (Three hours a week drafting, winter and spring quarters.) (1 unit.) Prerequisites: course 12 in Mechanical Engineering and courses 1, 2, 3, and 4 in Engineering. Courses *a* and *b* must be taken together and are required of students in Mechanical Engineering.

4 units, winter and spring quarters (G. H. MARX, GREEN)
Lec. MWF 8; Dft. W 1:05-4:05

14. Machine Design.—Study of machine elements, such as bolts and screws; riveted joints and boiler design; keys, fits and fitting; axles, shafts, and spindles; journals, bearings, friction, and lubrication; ball and roller bearings; sliding surfaces; couplings and clutches; gear, belt, rope, and chain transmission systems; flywheels; brakes; springs; frames and supports; cylinders, etc.; leading to the design of complete simple machines. (Two hours a week recitations and lectures, six hours in the drafting-room, throughout the year.) Open to students

who have completed course 13 in Mechanical Engineering, and who are taking courses 10 and 11 in Engineering; two quarters required of students in Mechanical Engineering.

4 units, autumn, winter, and spring quarters (G. H. Marx, Elliott) Lec. TTh 8; Dft. TTh 1:05–4:05

16. Advanced Machine Design.—Design of complete machines. Students may elect machine tools, cranes, steam or gas engines, or special problems. (One lecture and nine hours drafting per week.) Intended for fifth-year students who have completed courses 14, 32, and 33.

4 units, autumn quarter (G. H. Marx, Cutter) Lec. F 10; Dft. 1:05–4:05 by arrangement

21. Valuation of Fuels and Oils for Engineering Purposes.—Includes determinations of the proximate analysis of coal; the calorific value of coals, fuel oils, and gas; the moisture contents of fuel oils; the density, viscosity, flash, burning, and chill points of oils, and the coefficient of friction of lubricated bearings. (One lecture, three hours in the laboratory, and five hours on reports per week.)

3 units, autumn quarter (Cross) Lec. F 8; Lab. 1:05–4:05 by arrangement

22. Calibration and Use of Engineering Instruments.—Including thermometers, gas and steam meters, planimeters, steam engine indicators, absorption brakes, transmission dynamometers, steam calorimeters, and speed indicators. (One lecture, three hours in the laboratory, and five hours on reports per week.)

3 units, autumn and *winter quarters (Cross) Lec. Th 9; Lab. 1:05–4:05 by arrangement

23. Testing of Engines, Boilers and Compressors.—Includes valve setting, mechanical efficiency, and economy tests of steam engines, tests of steam turbines, gas engines, boilers (including flue gas analysis), and air compressors. (One lecture, three hours in the laboratory, and five hours on reports per week.)

Open only to students who have completed course 32 (the first quarter of Heat Engines, 4 units); required of students in Mechanical Engineering. It is very desirable that this course be preceded by courses 21 and 22, and it is expected of those who intend to do advanced experimental work.

3 units, winter quarter (for majors other than M. E.), and spring quarter (for M. E. majors) (Cross) Lec. Th 9; Lab. 1:05–4:05 by arrangement

24. Testing of Hydraulic Machinery.—Includes tests of centrifugal, rotary, jet, and steam pumps, pulsometers, hydraulic rams, water wheels and hydraulic turbines. (One lecture, three hours in the laboratory, and five hours on reports per week.) Open to students who have completed Engineering 12*b* and Mechanical Engineering 23.

3 units, autumn quarter (Stebbins) Lec. Th 8; Lab. 1:05–4:05 by arrangement

25. Testing of Power Plants and Auxiliaries.—Includes tests of feed water heaters, economizers, condensers, injectors, blowers, turbo-compressors, refrigerating machinery, and a complete power plant test. (One lecture, three hours in the laboratory, and five hours on reports per week.) Open to students who have completed courses 23 and 24.

3 units, winter quarter (STEBBINS) Lec. T 8; Lab. 1:05–4:05 by arrangement

26. Advanced Heat Engine Testing.—Includes valve-setting and equalizing loads of cross compound engines, thermal efficiency tests, Hirn's analysis, and speed regulation of engines, automobile tests, etc. (One lecture, three hours in the laboratory, and five hours on reports per week.) Open to students who have completed courses 23, 24, and 25.

3 units, spring quarter (STEBBINS) Lec. T 9; Lab. 1:05–4:05 by arrangement

28. Aerodynamic Laboratory.—Experimental investigation of airplane propellers and other aerodynamic problems.

3 units, autumn, *winter, and *spring quarters (LESLEY) By arrangement

30. Experimental Investigation of Mechanical Engineering Problems.—Open to all students who have completed courses 21, 22, and 23 and whose work has indicated their ability to carry on successfully advanced work of this nature.

3 to 6 units, autumn, *winter, and *spring quarters (CROSS, STEBBINS) By arrangement

31. Engineering Reports and Specifications.—Practice writing, with occasional lectures. Required of fourth-year students in Mechanical Engineering.

3 units, autumn and *spring quarters (LESLEY) Lec. TTh 9

32. Heat Engines.—Mechanical theory of heat and its applications. Fourth-year students in Mechanical Engineering.

4 units, autumn quarter (STEBBINS) Lec. MWF 10; office work as arranged

33. Heat Engines.—Continuation and application of course 32. (Three lectures and three hours' office work per week.) Required of fourth-year students in Mechanical Engineering.

4 units, winter quarter (STEBBINS) Lec. MWF 10; office work as arranged

34. Applied Thermodynamics.—Continuation of courses 32, 33. Irreversible operations, flow of gases and vapors, design of turbine nozzles. Application of thermodynamic theory to advanced and special problems. Prerequisite: course 32. Required of fifth-year students in Mechanical Engineering. (Two lectures and three hours' office work per week.)

3 units, spring quarter (STEBBINS) Lec. MWF 10; office work as arranged

35. Central Power Stations.—Study of the principal problems presented by the design and operation of modern central power stations driven by heat prime movers. (Two lectures and three hours' office work per week.)

3 units, autumn quarter (DURAND) Lec. TTh 9; office work as arranged

35b. Hydraulic Machinery and Power Stations.—Elements of hydraulic machinery with special reference to prime movers. Elements of the design of hydraulic power stations with special reference to modern hydroelectric practice; general control of water in tunnels and penstocks, surge chamber, control of surges and shocks, valves and regulating devices, penstocks and their installation, selection of units, characteristics of impulse and reaction types, speed regulation, installation tests, and special problems. Prerequisite: Engineering 12. (Four lectures and three hours' office work per week.)

5 units, spring quarter (DURAND) Lec. MTWTh 9; office work as arranged

36. Pumping Machinery.—Discussion of the principal problems arising in the design and operation of pumping machinery of various types, direct, centrifugal, rotary, propeller; and for various purposes, general service, boiler feed, fire service, mine drainage, irrigation, municipal supply, oil line service, etc. (Two lectures and three hours' office work per week.) Prerequisites: course 32, and Engineering 12.

3 units, winter quarter (DURAND) Lec. TTh 9; office work as arranged

40. Theory of Flight.—Discussion of elementary principles, and application to the chief problems arising in the theoretical discussion of the flight of air-craft heavier than air. (Two lectures with collateral problems.)

2 units, winter quarter (DURAND) Lec. TTh 9

FEES: Courses 1, 3, 7, $10.00 each; courses 5, 6, $8.00 each; course 8, $2.00 per credit hour; courses 24, 25, 26, $4.00 each; courses 21, 22, 23, $5.00 each; course 30, $1.50 per credit hour; courses 35, 36, 50c each.

ENGLISH

WILLIAM HERBERT CARRUTH, RAYMOND MACDONALD ALDEN, LEE EMERSON BASSETT, JOHN S. P. TATLOCK, Professors.

WILLIAM DINSMORE BRIGGS, HENRY DAVID GRAY, SAMUEL SWAYZE SEWARD, JR., Associate Professors.

HOWARD JUDSON HALL, ARTHUR GARFIELD KENNEDY, FRANCES THERESA RUSSELL, EVERETT WALLACE SMITH, Assistant Professors.

MARGERY BAILEY, HARRIET BRADFORD (Dean of Women), ELISABETH LEE BUCKINGHAM, MILLER L. MCCLINTOCK, EDITH RONALD MIRRIELEES, WARREN PAUL STANIFORD Instructors.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

a. The courses ordinarily prescribed in the major subject include Chaucer, Shakespeare, the advanced courses (81, 82, 83, 84) in the History of English Literature (four quarters), and an advanced course

in a single author (as Milton, Wordsworth, or Spenser), besides such preliminary courses in composition, vocal expression, or literature as may be advised in individual cases. In the advanced courses in English Literature one of two substitutions may be made: (*a*) for course 82, the course in Elizabethan Drama; or (*b*) for course 83, the course in Modern English Fiction (68). (Students making English their major subject in preparation for journalism will meet the same requirements as other English majors, but may substitute for two of the advanced courses in literature appropriate courses in some other subject, with the approval—to be obtained in advance—of their adviser.)

b. It is required also that each student pursue work in one foreign language and literature sufficiently for the accomplishment of two ends, (1) a practical reading knowledge of the language chosen, and (2) some acquaintance with its most important literature. This requirement is not primarily a matter of formal credit-hours, but will ordinarily be found to demand a minimum of 24 units of college work in the chosen language, aside from elementary courses (two years in the high school or one in the University). Students should be sure that their language studies are so planned as to accomplish the ends desired. Introductory courses in Latin and Greek, if pursued in the University, will be counted as college work. Those who make Latin or Greek their principal language are advised, in general, to include two years of work in a modern language among their elective studies; and those who have chosen a modern language are encouraged to include among their elections two years of work in Latin or Greek.

c. A course in English History is also prescribed for those who have not had a separate course in the subject in the high school.

The Teacher's Recommendation.—The High School Teacher's Certificate is granted by the State to students who have fulfilled the State requirements as set forth in the *Information* Bulletin, involving for applicants without experience one full year of graduate study. Recommendation by the department is granted by vote to students whose work has been of high character. It should be distinctly understood that a mere passing grade does not entitle a candidate to the endorsement of the department. The undergraduate courses prescribed are, in addition to a reading knowledge of at least one foreign language, Composition, Shakespeare, Chaucer, English Language, Teachers' English, one course in a literary type (as epic, drama, lyric), and three of the five courses 81, 82, 83, 84, 99, being the course in Versification and the period courses in English literary history. The graduate courses must comprise not less than three units of work for each quarter of study.

In addition, provision is made for minor certificates requiring in English, 30 units; in English Composition, 25 units; and in Public Speaking, 30 units.

Advanced Degrees

The candidate for the Master's degree in English must have: (1) The equivalent of the requirements for the A.B. degree in English; (2) an elementary knowledge of Old English; and (3) a reading knowledge of two foreign languages (preferably one ancient and one modern).

The work for the degree must occupy at least one full year of graduate study in residence, the greater part in English, the remainder in related fields. The courses in English will be divided between literature and philology. The candidate must present a thesis prepared under the direction of a member of the department and demonstrating the candidate's power of concentrated, independent study. This thesis may be accepted in lieu of not more than nine units of the work in the course.

For the conditions of acquiring the Doctor's degree, see the *Graduate Study* Bulletin.

Preliminary and General Courses

[In general, courses 1–15 are open to first-year students; courses 16-30 are open to second-year students.]

A. Elementary Composition.—A one-quarter course required of all first-year undergraduates who do not pass the matriculation test in English.

1 unit, autumn, *winter, and *spring quarters (Mirrielees, Bradford) MWF 8, 9

[For each student in course A, except in case of those who meet the requirement within a short time, a fee of $10 is charged.]

2. English Composition.—Practical work in narration and description, one quarter; in exposition, one quarter. Special sections for English and Journalism majors.

3 units, any two quarters (Carruth, Seward, Hall, Russell, Mirrielees, Kennedy, Bailey) MWF 8, 10

4. Vocal Expression.—A study of the principles of expressive reading, and the vocal interpretation of masterpieces in prose and poetry, with supplementary work in voice deveolpment. Each student is expected to memorize and vocally interpret 350 lines of Shakespeare during the quarter. The course is open to a limited number of students in the order of their application. Application should be made before the first meeting of the class in the quarter, and the instructor reserves the right to refuse to enroll students who do not appear at the first session of the class. Two sections.

4 units, autumn, *winter, and *spring quarters (Buckingham) (autumn, winter) TWThF 9, 10; (spring) TWThF 9

2½ units, first half summer quarter (Bassett) MTWThF 8

5. Reading Aloud.—The oral rendering of various forms of literature. Particular attention will be given to rhythm, time, melody, quality, and other musical elements of verse. Assignments for general class practice and for individual study and rendition. Prerequisite: course 4 or its equivalent. Open to a limited number of students in order of application.

3 units, autumn and winter quarters (BUCKINGHAM) MWF 11

6. Practical Phonetics.—A course in the enunciation and pronunciation of the English language. Designed especially for foreign students.

1 unit, winter and spring quarters (BASSETT) T 1:05

7. Extemporaneous Speaking.—Practice in extemporaneous speaking on subjects of current interest, with some attention to the preparation of speech outlines. Open to a limited number of students in order of application. Two sections.

3 units, autumn, *winter, and *spring quarters (BASSETT, MCCLINTOCK) (autumn, winter, spring) MWF 9, 2:05

2½ units, first half summer quarter (MCCLINTOCK) MTWThF 10

8. Outline History of English Literature.—A survey, critical and historical, of English literature in its larger aspects, with readings. Designed primarily for first-year English major students who have not taken a high school course in the subject.

5 units, spring quarter (MIRRIELEES, BUCKINGHAM) [Not given in 1920-21]

9. American Literature.—General survey of the history of American literature, with reading of selected representative works. Not open to students having entrance credit in the subject.

5 units, autumn and *summer quarters (HALL) (autumn) MTWThF 9 or 10; (summer) MTWThF 8

10. English Classics.—A study of representative works of great English writers from Malory to Browning, with assigned reading and writing. Open only to first-year students who are not English majors.

3 units, autumn and spring quarters; 5 units, winter quarter; (MIRRIELEES, BUCKINGHAM)

11. Introduction to Poetry.—A study of the nature, methods, and forms of poetry, with exercises in analysis and interpretation. Open to students of all departments.

5 units, spring quarter (ALDEN, SEWARD) MTWThF 9

13. Free Reading.—Intended to encourage familiarity with books and to supply an opportunity for more general reading. Open to a limited number of upperclass students from other departments, not to English majors. Six hours of reading weekly.

2 units, any one or two quarters (CARRUTH, ALDEN, TATLOCK, LEARNED, RUSSELL, GRAY, BRIGGS, BROWN, MARTIN, BRADFORD, SUTLIFF, BUCKINGHAM) By arrangement

14. Tennyson.—A study of selected portions of Tennyson's poems, illustrating the growth of his literary art. A general course, designed for first- and second-year students, and open to third- and fourth-year students by permission only.

4 units, winter quarter (HALL) MTWTh 9

16. Advanced Composition.—Including both rapid writing and the preparation of long themes. Prerequisite: course 2.

4 units, autumn and winter quarters (RUSSELL) MTWF 9

17. News Writing.—Intended to give a foundation for the other courses offered in journalism, and a prerequisite for them. The structure of the news story and news values are studied, with practice in writing the various forms of news stories. Sources of news and methods of news-gathering are considered, together with newspaper organization; the student is given an introduction to copy-reading, headline writing, and proofreading. Intended primarily for second-year students, but first-year students may be admitted if sufficiently prepared in English composition. One quarter's work in English 2 is a prerequisite, with two or three quarters recommended. All writing in the course must be done on the typewriter.

3 units, autumn and winter quarters (STANIFORD) MWF 11

18a. Reading and Staging Plays.—A course in play reading and play giving with special reference to high school and amateur dramatics.

1½ units, summer quarter, 1st half (BASSETT) MWF 10

18b. Interpretative Readings.—A course in the vocal rendering of pieces of literature studied in secondary schools, and of such poems, stories, and scenes from plays as members of the class may choose for individual study.

1½ units, summer quarter, 2d half (BASSETT) MWF 10

19a. Vocal Interpretation.—The oral interpretation of poetry, chiefly of the nineteenth century. Prerequisites: courses 4 and 5. Open to a limited number of students in order of application.

3 units, winter quarter (BASSETT) MWF 2:05

19b. Vocal Interpretation: Dramatic Literature.—The study of short plays of literary and dramatic merit for presentation before the class. Parts will be assigned. Attention will be given to characterization and action. Prerequisite: course 19a. Open to a limited number of students in order of application.

3 units, autumn quarter (BUCKINGHAM) MWF 2:05
2½ units, second half summer quarter (———) MTWThF 9

20. Practical Debate.—Under supervision of the department those students who work on intercollegiate debate questions may receive credit upon satisfactory completion of the work.

1 or 2 units, any quarter except summer (MCCLINTOCK) By arrangement

22. Victorian Prose.—A survey of Victorian prose, with special emphasis upon Carlyle, Ruskin, and Arnold. (Course 22 is a half-course with course 23; either may be taken separately.)

3 units, autumn quarter (SEWARD) MWF 9

23. Victorian Poetry.—A study of selected Victorian poets.

3 units, winter quarter (SEWARD) MWF 9

24. The Bible as Literature.—Representative portions of the Bible studied as literature.

3 units, autumn quarter (GRAY) [Not given in 1919-20]

25. Shakespeare.—Introductory course; lectures, with rapid reading of a considerable number of the plays in chronological sequence. Open to all except first-year students; recommended especially to second-year students who are likely to make English their major subject.

4 units, winter and summer quarters (ALDEN, GRAY) (winter) MTW 10 (summer) TWThF 10

27. Browning.—The first quarter is an introductory course open to all students; the second is more advanced, and may be taken by English majors as equivalent of English 60, 61, or 62.

3 units, winter and spring quarters (RUSSELL) [Not given in 1919-20]

30. Outline History of English Literature.—An historical survey of English literature in its larger aspects, with readings. Designed primarily for second-year students who are likely to make English their major subject.

5 units, spring quarter (———)

ADVANCED AND SPECIAL COURSES

[Unless otherwise specified, the following courses are open to third-year and fourth-year students of all departments.]

31. Exposition.—An advanced course intended primarily for students in scientific and professional lines. Special attention will be given to students preparing theses or other papers. Prerequisite: course 2 or equivalent.

3 units, autumn and *summer quarters (HALL) (autumn) MWF 8; (summer, 1st half) MTWF 9

32. Argumentation.—The theory of argumentation, with practice in the preparation of briefs and in the writing of arguments, together with a critical analysis of argumentative masterpieces. Open to all students who have made a satisfactory grade in English 2.

5 units, winter quarter (MCCLINTOCK) MTWThF 10
2½ units, summer quarter (1st half) MTWThF 9

33. Court Room Forensics.—An analysis of masterpieces of legal forensics together with practice in the organization and presentation of court room speeches. Open to fourth-year law students who have a

satisfactory grade in courses 7 and 32. Admission in order of application.

3 units, spring quarter (McClintock) By arrangement

34. Dramatic Composition.—The principles of dramatic writing developed in connection with the student's own work. Enrollment limited. Students must submit some specimens of their work in advance. May be taken for any quarter or throughout the year.

3 units, autumn, winter, and spring quarters (Gray) W 2:05–4:05

35. Prosody and Verse Writing.—Study of lyric poems, with practical exercises in the same. Open also by permission to second-year students who have had six units in English composition.

3 units, spring quarter (Carruth) TTh 3:05

36. Short Story Writing.—Practice in the writing of short stories, and a study of the principles governing their composition. The third quarter, conferences dealing with the construction of the short story, open by permission to students who have completed three quarters of work.

3 units, winter and spring quarters (Mirrielees) MWF 11

37. Essay Writing.—Preparation of magazine articles, criticisms, and papers of both informal and analytical character. Prerequisite: course 2.

3 units, spring quarter (Russell) MWF 9

40. Editorial Writing.—A study of the purpose and power of the newspaper editorial.

2 units, spring quarter (Smith) TTh 9

41. News Analysis.—A systematic study of current news.

2 units, one quarter (Smith) [Not given in 1920-21]

42. Correspondence.—Instruction and practice in the work of the newspaper correspondent.

3 units, two quarters (Smith) [Not given in 1920-21]

43. American Journalism.—A survey of the development of journalism, with a study of representative newspapers. (Course 17 a prerequisite.)

5 units, spring quarter (Smith) MTWThF 8

44. Practical Reporting.—This is a continuation of course 17 (News Writing) and consists chiefly of practical work in gathering and writing news for the student newspaper, the *Daily Palo Alto,* with two class meetings a week for instruction in copy-reading, headline writing, and other subjects.

3 units, autumn, winter, and spring quarters (Staniford) TTh 9

45. Editorial Management.—Practical advanced work on the editorial staffs of campus publications.

2 or 3 units, autumn, winter, and spring quarters (Smith, Staniford) By arrangement

46. Advertising.—The aim is to give to students who are training for journalism, and to others who expect to go into business, some of the elementary and fundamental principles of advertising. Intended primarily for juniors and seniors who have had English 17, together with elementary economics and elementary psychology; with permission of the instructor others may be admitted.

5 units, spring quarter (STANIFORD) MTWThF 10

49. Voice Training.—Lectures on the voice, with class exercises. Open only to public-speaking minors.

1 unit, autumn quarter (BASSETT) [Not given in 1919-20]

50. Public Speaking.—Practice in the preparation and delivery of speeches adapted to various audiences and occasions, with attention to the style of spoken discourse. Prerequisite: course 7. Open to a limited number of students in the order of application.

3 units, winter and spring quarters (BASSETT) MWF 9, 1:05
2½ units, second half, summer quarter (BASSETT) MTWThF 8

51. Public Reading.—A course in the preparation of poems, stories, and scenes from novels and plays for public presentation. Prerequisites: courses 4, 5, 19*a*, and 19*b*. Open to a limited number of students in the order of application.

2 units, winter and spring quarters (BASSETT) T 2:05–4:05

52. Oral Debate.—Practice in the preparation and delivery of oral arguments, chiefly on current public questions. Prerequisite: course 32. Open to a limited number of students in the order of application.

2½ units, second half summer quarter (MCCLINTOCK) MTWThF 8

53. Teachers' Course in Oral Expression.

2 units, spring and *summer quarters (BASSETT) (spring) T 2:05–4:05; (summer) TTh 10

54. The Short Story.—A study of the short story in English, with especial attention to its development during the nineteenth century.

3 units, spring quarter (MIRRIELEES) MWF 8

55. Old English.—Elements of Old English Grammar with reading exercises.

4 units, winter and summer quarters (TATLOCK, KENNEDY) MWThF 10

56. The History of the English Language.

3 units, spring quarter (TATLOCK) MWF 10

58. Chaucer.—An elementary course, including an outline of Middle English Grammar for the beginner. Open to third-year students who have a reading knowledge of one foreign language.

3 units, winter and *summer quarters (TATLOCK, KENNEDY) MWF 1:05

59. Shakespeare.—A continuation of course 25, devoted to the more intensive study of a few plays. Designed primarily for English major students in their third year; open to others on recommendation from course 25.

4 units, spring quarter (Alden, Gray) MTWF 10

60. Spenser.—Primarily for fourth-year students of the English Department.

3 units, one quarter (Briggs) [Not given in 1920-21]

61. Milton.

3 units, spring quarter (Briggs) MWF

62. Wordsworth.

3 units, autumn quarter (Hall) MWF 9

65. Introduction to Comparative Literature.—An exposition of the comparative method in literary study, with a survey of the distribution of types in world literature. Open to third-year and fourth-year students who have had not less than fifteen units in English literature.

3 units, autumn and summer quarters (Carruth) TThS 9

66. National Epics.—Reading in translation of the Mahabharata, the Iliad, the Æneid, the Beowulf, the Song of Roland, the Nibelungenlied, and the Kalewala. Open also to graduates.

4 units, winter quarter (Carruth, Murray, Elmore, De Vries, Rendtorff) MTWTh 11

67. The History of Prose Fiction.—Including the beginnings of English fiction to DeFoe.

3 units, one quarter (Carruth) [Not given in 1920-21]

68. English Fiction.—A course in the history of English fiction from DeFoe through the major novelists of the nineteenth century.

5 units, summer quarter (Briggs) [Not given in 1919-20]

69. The Modern Novel.—Lectures on European fiction from 1856 to the present time, with the reading of representative novels and reports upon them. Open to third-year and fourth-year students of all departments.

5 units, one quarter (Gray) [Not given in 1920-21]

70. The English Drama to 1642.—The beginnings and development of the drama.

5 units, summer quarter (Briggs) MTWThF 10

71. Modern Drama.—A study of Ibsen and of contemporary dramatists. Open to third-year and fourth-year students of all departments.

5 units, winter quarter (Gray) MTWThF 9

72. Satire in English Literature.—An analysis of humor and satire (with the emphasis on the latter) both as abstract qualities and as elements of literature. Historical survey and study of illustrative examples. Not open to first-year students.
(Russell) [Not given in 1920-21]

73. Post-Victorian Poetry.—A survey of English and American poetry since 1890, with special attention to the poetic revival of the present time.
4 units, one quarter (Gray) [Not given in 1920-21]

74. The English Essay.—A study of the Essay as a type, from Bacon to the twentieth century.
3 units, autumn quarter (Russell) MWF 10

75. Contemporary Essayists.—An examination of such writers as have made a distinctive contribution to present-day thought. Lectures and assigned readings.
4 units, spring quarter (Russell) [Not given in 1919-20]

77. Social Influence of the Theater.
2½ units, summer quarter (2d half) (Pichel) WF 2–4

80. Old English Literature to 1066.—Survey with lectures and reading in translation.
3 units, winter quarter (Kennedy) [Not given in 1920-21]

81. Medieval Literature, with special reference to Middle English.—Special attention is paid to the literary relations of England and France from the Anglo-Saxon period to the sixteenth century. The course will serve as a general introduction to medieval European literature, which is studied by types: romances, histories, visions, lyrics, fabliaux, etc. This course is continued in No. 109.
4 units, autumn quarter (Tatlock) MTWF 11

82. English Literature from 1557 to 1700, exclusive of the Drama.—Primarily for fourth-year students of the English Department.
4 units, winter and summer quarters (Briggs) MWThF 11

83. English Literature from 1700 to 1780.—Primarily for third-year students of the English Department.
4 units, autumn quarter (Alden, Hall) MTWF 11

84. English Literature from 1780 to 1832.—A continuation of course 83.
4 units, spring quarter (Alden) MTWF 11

86. Criticism (Undergraduate Seminary).—A course in the practical analysis and valuation of recent literature; book reviews and discussions.

Limited to eight seniors, admitted from any department on recommendation.

3 units, autumn and winter quarters (ALDEN) MTh 2:05–3:40

[The following courses are open to graduates also.]

87. The Life and Thought of the 16th and 17th Centuries.—For seniors and graduates of all departments.

4 units, winter and spring quarters (BRIGGS) M 2:05–4:05

89. American Colonial Literature.—A research course. Prerequisites: American and English History and 18th Century English Literature.

4 units, winter quarter (HALL) [Not given in 1919-20]

90. American Poetry, Exclusive of the Drama.—A study of the greater American poets with especial reference to their relation to English and Continental literature.

4 units, spring quarter (CARRUTH) [Not given in 1920-21]

93. Beowulf.

4 units, spring quarter (KENNEDY) [Not given in 1920-21]

94. Middle English Readings.

3 units, autumn quarter (KENNEDY) MWF 1:05

95. The Bible in Early English.—Lectures, with readings in translation.

3 units, spring quarter (KENNEDY) By arrangement

96. Ballads.

4 units, one quarter (BRIGGS) [Not given in 1920-21]

97. Ideal Commonwealths.—A study of the Utopian idea and related social and political conceptions, as expressed in literature.

3 units, spring quarter (RUSSELL) [Not given in 1919-20]

98. Teachers' Course in English.—A study of the methods of teaching Composition and Literature in secondary schools. Open to fourth-year students.

3 units, two quarters, or 5 units, one quarter (CARRUTH, GRAY) (winter, spring) MWF 10; (summer) MTWThF 11

99. Versification.—An introduction to the theory of rhythm and meter, the history of English prosody, and the problems of reading and teaching verse. Open to fourth-year students and graduates; to third-year students by special permission.

3 units, autumn quarter (ALDEN) [Not given in 1919-20]

GRADUATE COURSES

[Open also with consent of the instructor to advanced undergraduates.]

101. Introduction to English Philology and Bibliography.

3 units, autumn quarter (KENNEDY) MWF 9

103. Tragedy.—A comparative study of the theory and practice of tragedy in various literatures.
4 units, two quarters (ALDEN) [Not given in 1920–21]

104. Comedy.—An inquiry into the nature of the comic and into its literary uses, as exemplified especially in the drama.
3 units, autumn and winter quarters (SEWARD) [Not given in 1920-21]

105. Elizabethan and Seventeenth Century Lyric.—Special emphasis is laid on the sonnets of Shakespeare and his contemporaries, and on the religious lyric of the age of Herbert.
4 units, autumn quarter (ALDEN) [Not given in 1920-21]

106. Critical Theories.—The history of English literary criticism from the Elizabethan age to the present.
3 units, spring quarter (SEWARD) [Not given in 1920-21]

107. Tennyson.—The Idylls of the King compared with their sources.
3 to 5 units, summer quarter (CARRUTH) TTh 2:05-4:05

108. The Deputy Wooer Theme in General Literature.—A study of the sources and migration of epic themes.
3 units, spring quarter (CARRUTH) MWF 2

109. Medieval Literature.—A continuation of course 81, but may be taken by students who have not had the latter. Especial attention is paid to Dante and Chaucer.
3 units, spring quarter (TATLOCK) By arrangement

110. Chaucer (advanced course).—The Canterbury Tales, or the Troilus, will be studied, with attention to the structure and history of the work and its literary significance. Open to fourth-year students.
4 units, autumn and summer quarters (TATLOCK) By arrangement

111. Shakespeare.—An introduction to the bibliography of the subject, the history of the text, and methods of critical study. The second quarter's work is devoted to individual research, with weekly conferences.
4 units, autumn quarter; by arrangement, winter quarter (ALDEN) (autumn) MWF 11

112. Shakespeare.—A critical study of one play. In 1920–21, Hamlet; in 1921–22, Antony and Cleopatra.
4 units, spring quarter (GRAY) M 2:05–4:05, and a third hour by arrangement

113. Marlowe.
4 units, summer quarter (BRIGGS) By arrangement

114. Jonson.
4 units, two quarters (BRIGGS) [Not given in 1920-21]

115. Elizabethan Drama Seminary.—For 1920–21, Beaumont and Fletcher (for 1921–22, Webster).
4 units, autumn quarter (GRAY) M 2:05–4:05

117. Journal Club.—Reports on current literature by the members of the class.

2 units, winter and spring quarters (Carruth, Kennedy) TTh 2:05

118a. Early English Seminary.—Legendary history of Britain.

3 units, one quarter (Tatlock) [Not given in 1920-21]

118b. Early English Seminary.—The Siege of Troy in English Literature.

3 units, one quarter (Tatlock) [Not given in 1920-21]

Journalism

The curriculum outlined below is based on the conviction that the best preparation for the journalistic career is the broadest possible college course with a preponderance of English, History, and Economics. The intending journalist will make one of these his major department, in accordance with his inclinations and with the advice of the instructor in journalism and the head of the department. He will be subject to the direction of the major department in conjunction with the instructor in journalism, *and will meet the usual requirements of that department* excepting where otherwise stated. He will be classified and his diploma marked if so desired, "English (Economics, History) preparatory to Journalism." Intending journalists are encouraged to compete for opportunities to engage in college journalism and thus to obtain all possible practical experience during their course. When done systematically and under the direction of the instructor in journalism provision is made for a just amount of credit for such work.

A working schedule for a four-years' curriculum may be made up in accordance with the following outline:

(*a*) English (23), Economics (22), History (22), Journalism (23); total, 90 units.

(*b*) Selection from at least five of the following divisions: Biology, Physical Science, Geology, Astronomy, Physiology and Hygiene, Philosophy and Psychology, Sanitary Engineering, Law, Medical Theory, Education; total, 45 units.

(*c*) Margin to complete requirements of major department, and for free choice, 45 units.

Comparative Literature

The following courses offered by the various departments of literature in the University pursue the comparative method and contribute to a survey of the literature of the world and the relations of the several literatures to one another. English majors are advised to elect as many

as possible of these courses. Detailed description and the conditions of election are given under the respective departmental announcements.

Introduction to Comparative Literature. [English 65.]
The English Bible. [English 24.]
Greek Literature. [Greek 21 and 22.]
Latin Literature. [Latin 32.]
Early English and General Medieval Literature. [English 81, 109.]
History of German Literature. [Germanic Languages 81.]
The 18th Century. [English 83 and 84.]
The Victorian Era. [English 22 and 23.]
National Epics. [English 66.]
The Greek Epic. [Greek 18.]
The Hildebrand Theme. [English 108.]
Dante and the Divine Comedy. [Romanic Languages C51.]
Chaucer. [English 58 and 110.]
Tennyson: the Sources of the Idylls of the King. [English 107.]
The History of Prose Fiction. [English 67.]
English Fiction. [English 68.]
The Modern Novel. [English 69.]
Development of the German Novel. [Germanic Languages 87.]
The French Novel in the 19th Century. [Romanic Languages A60.]
The Development of Tragedy. [English 103.]
Comedy. [English 104.]
Ideal Commonwealths. [English 97.]
Greek Tragedy. [Greek 19.]
Roman Comedy. [Latin 10.]
The English Drama to 1642. [English 70.]
The Modern Drama. [English 71.]
Origins of the Spanish Theater. [Romanic Languages 27.]
Development of the German Drama. [Germanic Languages 86.]
The French Drama in the 19th Century. [Romanic Languages A61.]
Ballads. [English 96.]
The English Lyric. [English 105.]
Development of Lyric Poetry. [Germanic Languages 88.]
Latin Seminary: Epic Poetry. [Latin 22.]
Greek Sculpture. [Greek 26.]
Roman Art and Archeology. [Latin 31.]
History of German Civilization. [Germanic Languages 137.]
Life and Thought of the 16th and 17th Centuries. [English 87.]
American Poetry in Relation to European. [English 90.]
Tendencies in Contemporary Thought. [English 75.]

ENTOMOLOGY AND BIONOMICS

†Vernon Lyman Kellogg, Professor.
Rennie Wilbur Doane, Associate Professor.
Mary Isabel McCracken, Assistant Professor.
Gordon Floyd Ferris, Instructor.

1a. Elementary Entomology.—An introduction to the study of entomology intended to give the student a general knowledge of the structure, development, and classification of the orders of insects having incomplete metamorphosis. Includes a study of the grasshopper, and a comparative study of representative insects of other groups having similar methods of development. Laboratory and field work, with occasional lectures. Open to all students. (Twelve and one-half hours a week.)

5 units, autumn quarter (McCracken) Forenoons

1b. Elementary Entomology.—A continuation of course 1, but not necessarily preceded by it. Includes the study of a beetle as a type of an insect with complete metamorphosis and a comparative study of representative insects of orders having similar methods of development. Open to all students.

5 units, winter quarter (McCracken) Forenoons

1c. Classification of Insects.—This course includes a study of insects in the field and the collection and classification of representatives of as many families as possible. The purpose of the course is to increase the student's knowledge of the insect fauna of this region and to acquaint him with the aims and methods of systematic work. Must be preceded by course 1*a* or 1*b*.

5 units, spring and *summer quarters (McCracken, Ferris) By arrangement

2. Advanced Morphology and Biology of Insects.—Open to students who have had courses 1*a* and 1*b*. Text-book: Comstock's Introduction to Entomology.

2 to 4 units, spring (or autumn) quarter (McCracken) Forenoons

3. Insect Ecology.—A study of the structure, habits, and adaptations of a selected group of insects and their relations to their environment. This course offers an introduction to the study of insects for teachers of nature study or high school biology. (Not open to students who have had Entomology 1*a* and 1*b*.)

5 units, summer quarter (McCracken) Forenoons

† Absent on leave, 1919-20.

4. General Entomology and Insect Adaptations.—A course of lectures and demonstrations. Open to students who have had some work in biology.

2 units, autumn quarter (McCracken) Lec. TTh 9

5. Insects and Disease.—A discussion of the insects that cause or disseminate some of the diseases in man and the domestic animals. Lectures and demonstrations. Open to students having some previous training in biology.

2 units, winter quarter (Doane) TTh 9

6. Honey-bee and Apiculture.—Study of the honey-bee; its structure and activities and an introduction to practical bee-keeping through work in a small apiary.

3 units, spring and *summer quarters (McCracken) By arrangement

7. Economic Entomology: Coccidae (the Scale Insects).—A study of the classification, general biology, and economic relations of the scale insects, with particular attention to the more important injurious ones of the Pacific Coast. Field, laboratory, and bibliographic work, with occasional lectures.

3 units, winter quarter (Doane) MWF afternoons

8. Economic Entomology: Aphididae (the Aphids).—Systematic and biologic studies of the aphids, or plant lice.

3 units, autumn quarter (Ferris) By arrangement

9. Economic Entomology: Forest Insects.—A study of the insect enemies of forest and shade trees. The course includes field, laboratory, and bibliographic work. Should be preceded by course 7.

3 units, autumn quarter (Doane) MWF afternoons

10. Economic Entomology: Orchard and Garden Insects.—A study of the principal injurious and beneficial insects of the orchard and garden. Includes field, laboratory, and bibliographic work, and a weekly lecture on the history, principles, and practice of economic entomology. Should be preceded by course 7.

3 units, spring quarter (Doane) MWF afternoons

11. Taxonomy.—In this course the student is afforded an opportunity to classify material which he has collected or which is in the museum of the department. It is intended to increase his knowledge of systematic entomological literature and to train him in taxonomic methods.

Autumn, winter, spring, and summer quarters (McCracken, Ferris) By arrangement

12. Insect Histology and Histologic Technic.—The study of the histology of insect tissues and organs, and the special methods of such study.

3 units, autumn quarter (Ferris) Forenoon hours

13. Advanced Economic Work.—Studies of one or more groups of insects of economic importance, including systematic ecological investigations and methods of controlling the injurious species. Field, laboratory, and library work, with occasional lectures. Intended for students fitting themselves for practical work in Economic Entomology. Open to advanced students.

Autumn, *winter, and *spring quarters (Doane) By arrangement

BIONOMICS

15. Organic Evolution.—Lectures on the laws or principles of biology and the factors in organic evolution. Not open to first- and second-year students. Given in 1919–20 by members of the Zoology, Botany, and Entomology Departments.

3 units, autumn quarter MWF 10

16a. Animal Genetics.—Discussion and demonstrations of the principles of heredity underlying modern practices in improvement of animals. (Not open to first- or second-year students.)

2 units, spring quarter (McCracken) TTh 9

Work for graduate and special students will be specially arranged.

Major students in Entomology must obtain before graduation forty-five units of credit in Entomology, and credit for course 1 in Zoology, and course 1 in Botany.

The Entomological Collections contain authoritatively determined specimens, accessible for comparison, in all of the insect orders, and include many sets of specimens illustrating the development and habits of insects. There is included, also, the most important existing collection of North American Mallophaga, comprising the types of four-fifths of all the species so far described from North America and the Pacific Islands, an unusually large collection of Coccidae (scale insects), and valuable series of specimens from the Galápagos Islands, Samoa, and the Philippine Islands.

Laboratory Fees.—$2.50 per quarter for each laboratory course.

GEOLOGY

James Perrin Smith (Paleontology), Austin Flint Rogers (Mineralogy), Cyrus Fisher Tolman, Jr. (Economic Geology), Bailey Willis (Geology), Professors.

The Department of Geology offers training in preparation for the profession of geologist or geologic engineer. It also offers the pre-

mining courses necessary for entrance into the graduate Department of Mining and Metallurgy. Choice of these courses is directed by coöperation of the two allied departments. The curriculum is so arranged that in the junior and senior years the students divide naturally into two groups; one going into advanced studies in various branches of geology, the other going more into engineering studies in preparation for the professional work of mining.

Students intending to pursue their major subject in the Department of Geology should offer as a part of their entrance preparation trigonometry, advanced algebra, physics, and chemistry; otherwise the mathematics, physics, and chemistry must be taken in the University.

Courses of study in the Department of Geology lead to the degree of Bachelor of Arts on completing four years of study, or the equivalent of one hundred and eighty units of credit. The degree of Master of Arts may be secured at the close of the fifth year's work, including a thesis, in accordance with the regulations of the University. The degree of Doctor of Philosophy is given on completion of the required additional work under the conditions stated in the *Register*. The requirement that the work shall be done in residence may in part be waived on recommendation of the department when the needs of original investigation cannot be met at the University.

Courses of Study

The following is a list of the studies offered in the department. They are grouped under the heads of Geology, Mineralogy, Economic Geology, and Paleontology. Certain elementary courses in the department are required of all students, as indicated: Geology 1; Economic Geology 1, 2; Mineralogy 1; Paleontology 2, 3. In addition to these, Civil Engineering 20 (Surveying), and two years of either French or German are required of all students. (A year of Spanish may be substituted for the second year of either language.) Other courses are elective, except that no study may be taken without proper preparation, and should be selected only after conference with the instructors. At least sixty units of work in the department will be required for the degree of Bachelor of Arts. A part of these may be taken, upon consultation, in the Department of Mining and Metallurgy.

GEOLOGY

Geography 1: Physical Geography.—A lecture course on the aspects of the earth, treating of the facts, causes, and laws of physical geography; intended to give the student a knowledge of the physical world as the abode of man. Open to students from all departments

1a. First half of Geography 1.—Three units, lectures only with assigned readings, or five units, lectures and problems. The three-unit lecture course presents the general features of the earth, an outline of meteorology and climate, and an analysis of the physiographic divisions of the United States. The five-unit course includes the above together with special studies adapted to the needs of groups of students in Engineering or other branches.

3 (or 5) units, winter and *summer quarters (winter, WILLIS; summer, TABER) Lec. MWF 8; Lec.-Probs. MTWThF 8

1b. Second half of Geography 1.—Three units, lectures only with assigned readings, or five units, lectures and problems. Course 1*b* is a continuation of course 1*a*, but credit will be given for each half separately. Course 1*a* or its equivalent is a prerequisite to course 1*b*.

3 (or 5) units, spring quarter (WILLIS) Lec. MWF 8; Lec.-Probs. MTWThF 8

Geology 1 and 2: Dynamical Geology.—This is designed to be a technical course in dynamical geology in preparation for geologic, mining, and engineering work. It is open to students in science or engineering of sophomore or higher classes. Prerequisites: Chemistry 1, Physics 3*a* and Engineering 1, 2, and 3.

1. Dynamical Geology.—Deals with earth processes, the evolution of topographic forms, and stratigraphy. Lectures and problems in field and laboratory.

5 units, autumn, *winter, and *summer quarters (autumn, ———; winter, WILLIS; summer, TABER) MTWThF 9

2. Advanced Dynamical Geology.—Deals with strata as geologic formations, structure of sedimentary, igneous, and metamorphic rocks, and closes with an outline of current geologic dynamic theory. Lectures and problems in field and laboratory. Prerequisite: Geology 1.

5 units, spring quarter (WILLIS) MTWThF 9

3. Structural Geology.—Advanced work in the structure of stratified, massive, and foliated rocks. Open only to students who have had Geology 1 and 2, and Mineralogy 1.

2 units, winter quarter (WILLIS) TTh 9

4. Field Geology.—Field practice in working out geology in the field and its representation upon topographic maps and sections. Prerequisites: Geology 1, Mineralogy 1, Paleontology 2, 3, and Civil Engineering 20.

8 units, summer quarter (TOLMAN)

5. Topographic Geology.—The construction of a topographic and geologic map and geologic sections by surveying methods, especially by

means of the plane table. Open to students who have completed course 4 in Geology.

7 units, summer quarter (Tolman)

6. Regional Geology.—Lectures and reading, with discussions in seminar, on the geologic provinces of North America and other continents. (Willis) By arrangement

7. Advanced Geology.—Reading and research work for advanced students in Geology. (Willis) By arrangement

MINERALOGY

Mineralogy 1: Common Minerals and Rocks.—The study of the more common minerals and prominent rock types. An elementary course with emphasis upon sight determination and simple physical and chemcial tests. Introductory to the other courses in mineralogy and petrography. Open to students who have had Chemistry 1, *a*, *b*, and 3. Required of all Geology students, and open to a limited number of other students in order of application.

4 units, autumn and spring quarters (Rogers) Lec. MW 11; Lab. MW 1:05–4:05

2. Crystallography.—An elementary study of the geometrical and optical properties of crystals with emphasis upon the polarizing microscope as an instrument of research. This course is intended primarily as a prerequisite for course 3, but may also be taken independently by chemistry and physics students as an introduction to the study of the solid state. Prerequisites: Physics 5 and Engineering 3.

4 units, winter quarter (Rogers) Lec. WF 11; Lab. WF 1:05–4:05

3. Systematic Mineralogy.—Systematic study of the important minerals and their determination by all available methods. Mineralogy 1 and 2 (Crystallography) and Chemistry *d* (Qualitative Analysis) are prerequisites.

4 units, spring quarter (Rogers) Lec. TTh 11; Lab. TTh 1:05-4:05

4. Petrography.—Study of hand specimens and thin sections of the principal rock types and mineral deposits. In course 3 the properties or characters of minerals are considered, while course 4 is primarily concerned with the relations between associated minerals with special reference to their occurrence and origin. Mineralogy 1, 2, and 3 are prerequisites.

5 units, autumn quarter (Rogers) Lec. WF 10; Lab. WF and one period by arrangement, 1:05–4:05

5. Advanced Mineralogy.—Advanced work in crystallography, mineralogy, or petrography may be undertaken by properly prepared students.

2 to 5 units, winter quarter (Rogers) By appointment

ECONOMIC GEOLOGY

1. Non-metals.—The occurrence, distribution, origin, and geologic methods of investigation of the non-metallic substances. Prerequisites: Mineralogy 1, Geology 1, and Paleontology 2, 3.

4 units, winter quarter (TOLMAN) MTWTh 8

2. Ores.—The ore-forming processes, modes of occurrence of the various types of ore bodies, and the structures of the ores. A review of the important ore deposits of the United States and of the world. Open to students who have completed Mineralogy 1, Geology 1, and Paleontology 2, 3.

4 units, spring quarter (TOLMAN) MTWTh 8

[3a, 3b. Petroleum Technology.—(Same as Mining and Metallurgy 24, *a* and *b*.)

3 units, winter and spring quarters (BEAL)

4. Seminar in the Origin and Accumulation of Oil.—(Same as Mining and Metallurgy 47.) A critical study of the literature with reference to the origin and accumulation of oil. Prerequisites: Economic Geology 1, Mining 24–28, inclusive. Students admitted only after personal consultation with the instructor.

4 units, winter quarter (TOLMAN) TTh 9–11

5. Seminar in Ore Deposits.—A review of the literature of ore deposits and the bearing of the data collected upon the problems of ore formation. Prerequisite: Mineralogy 4. For seniors and graduate students. (Three lecture and conference periods and one to three laboratory periods.)

4 to 6 units, spring quarter (TOLMAN) TTh 9–11

6. Special Courses.—These include: (*a*) a study of the literature of some special phase of economic geology, with a thesis; (*b*) field investigations of some mine or mineral district, or the general economic geology of an assigned area; (*c*) microscopic studies of ores collected during field studies, or microscopic investigation of suites of specimens owned by the University. (For graduate students; in exceptional cases seniors will be admitted.)

Winter and spring quarters (TOLMAN) By arrangement

PALEONTOLOGY

Paleontology 1: Systematic Paleontology.—History and character of fossils. Three lectures and six hours of laboratory work weekly.

4 units, autumn quarter (SMITH) MWF 10

2. Historical Geology.—History and character of geologic formations. Three lectures and six hours of laboratory work weekly.

4 units, winter quarter (SMITH) MWF 10

3. Historical Geology.—Continuation of course 2.
4 units, spring quarter (Smith) MWF 10

4. Systematic Conchology.—Special studies in Tertiary and Recent Conchology of the West Coast. One lecture and two afternoons of laboratory work weekly.
2 units, autumn quarter (Smith) TTh 1:05–4:05

5. Tertiary Conchology of California.
2 units, winter quarter (Smith) ThF 1:05-4:05

6. Paleobotany of California.
2 units, spring quarter (Smith) ThF 1:05–4:05

7. General Geology of California.
2 units, autumn quarter (Smith) TTh 10

8. Detailed Stratigraphy of California.
2 units, winter quarter (Smith) TTh 10

9. Stratigraphic History of the Great Basin.
2 units, spring quarter (Smith) TTh 1

10. Advanced Paleontology.—Original investigation of various problems in paleontology, especially of invertebrate morphology, and of the distribution of faunas. This course will consist entirely of private work in field and laboratory. Open to advanced students and graduates.
2 to 5 units, all quarters (Smith) By arrangement

GERMANIC LANGUAGES

William Alpha Cooper, George Hempl, Karl Gustav Rendtorff, Professors.
Bruno Boezinger, Associate Professor.
Catharine Morris Cox, Instructor.
Sophia Juliane Wolters, Assistant in Instruction.

The elementary and intermediate courses listed below are designed to prepare students to read German with ease and without translation, and to express ideas in simple German prose. The normal year's work extends through three quarters, five hours a week, the work of the second and third years consisting of a three-unit reading course and a two-unit composition course. Students who have completed this normal amount of third-year German may take any course in Group II for which, in the judgment of the instructor in charge, they are prepared. All courses in Group II, except 77, 91, 92, 106, 131, 132, and 133, presup-

pose considerable facility in reading German and the ability to follow lectures in German.

Candidates for the A. B. degree in German, who do not intend to teach the language, are expected to elect courses from Group II totaling fifteen units.

Candidates for the A. B. degree in German, who are preparing themselves to teach the language, are expected to elect thirty units from Group II. During their graduate year they should take one course each quarter, including Middle High German. Proficiency in German will be insisted upon.

Candidates for the Teacher's Recommendation, in German as a second major or a minor subject, are referred, for information concerning requirements, to the Bulletin of the School of Education. Proficiency in German will be insisted upon.

Candidates for the A. M. degree in German are expected to take courses 63 and 151, and thirty units besides from Group II.

Candidates for the Ph. D. degree are referred to the bulletin on Graduate Study.

The library facilities are good, and the collections are being strengthened in all directions. The private library of the late Professor Hildebrand, of the University of Leipzig, furnishes valuable material, particularly in the older literature and in lexicography. In modern literature the Library offers good opportunities for advanced work, the Goethe collection being especially satisfactory. The files and the current numbers of most of the important journals are at hand.

The department maintains, in room 112, a special library of its own, including a collection of German textbooks and a model reference library for a secondary-school teacher. This collection of books is supplemented by an extensive collection of maps, wall pictures, and lantern slides, suited for use in teaching.

I. Elementary and Intermediate Courses

1. First-year German.—It is the object of this course to put the learner in possession of the elements of the German language. This implies: (1) a personal command of simple German, that is, the ability to understand such German, whether heard or read, and to employ the language in simple conversation, narration, and description, both orally and in writing; (2) such a ready familiarity with the elements of German grammar as is essential for the attainment of this command of the language.

5 units, autumn quarter, 1920 (Wolters) MTWThF 8, 9, 11

2. First-year German, continued.

5 units, winter quarter, 1921 (Cox, Wolters) MTWThF 8, 9, 11

3. First-year German, continued.
5 units, spring quarter, 1921 (Cox, Wolters) MTWThF 8, 9, 11

[Note.—Courses 1, 2, and 3, together, are equivalent to two years of German in the high school, and may be taken by students who have presented no units of credit in German for entrance into the University. Those who present one unit for entrance may take courses 2 and 3.]

21. Second-year German.—The aim of this course is to extend and strengthen the student's personal command of German, both oral and written. Three periods a week are devoted to the reading and discussion in German of texts selected from the writings of contemporary or late nineteenth century authors. In the other two periods of the week, the text that is read furnishes the material for exercises in composition, practical grammar, and the study of words. Beginning with the autumn quarter, 1920, the work will be offered as two separate courses, as follows:

a. Reading.
3 units, autumn quarter (Boezinger, Cooper) MWF 9, 11

b. Composition.
2 units, autumn quarter (Boezinger) TTh 9

22. Second-year German, continued.

a. Reading.
3 units, winter quarter (Boezinger, Cox) MWF 9, 11

b. Composition.
2 units, winter quarter (Boezinger) TTh 9

23. Second-year German, continued.

a. Reading.
3 units, spring quarter (Boezinger, Cox) MWF 9, 11

b. Composition.
2 units, spring quarter (Boezinger) TTh 9

[Note.—Courses 21, 22, and 23, together, are the equivalent of the third and fourth years of German in the high school. Students who present three units in German for entrance may take courses 22, 23, and 24.]

24. Second-year German.

a. Reading.
3 units, summer quarter (Cox) MWF 8

b. Composition
2 units, summer quarter (Cox) TTh 8

25. Scientific German.
3 units, autumn quarter (Boezinger) MWF 9

26. Scientific German, continued.
3 units, winter quarter (Boezinger) MWF 9

27. Scientific German, continued.
3 units, spring quarter (Boezinger) MWF 9

[Note.—Courses 25, 26, and 27 form one continuous course, but credit may be obtained for the work of any quarter separately. Prerequisites: Courses 1, 2, and 3, or two entrance units in German. Not open to freshman students. See Course 30.]

28. Scientific German.
3 units, summer quarter (Cox) MWF 9

29. Directed Reading in Scientific German.—(36 hours of reading per unit.)
1 to 3 units, any quarter (Boezinger, Cox) By arrangement

30. Free Reading.—Open only to freshman students of science who expect, in their sophomore year, to take Scientific German, but cannot meanwhile take the regular Second-year German. Prerequisites the same as for Scientific German. Permission of the instructor necessary before registration. (36 hours of reading per unit, and a brief conference once a week with the instructor.)
1 or 2 units, any quarter (Cooper) By arrangement

31. Third-year Reading.—The first aim of this course is to develop the ability to read printed German and understand spoken German both rapidly and accurately. Prerequisite: Second-year German, for three quarters, or an equivalent.
3 units, autumn quarter (Cooper) MWF 11

32. Third-year Reading, continued.
3 units, winter quarter (Cooper) MWF 11

33. Third-year Reading, continued.
3 units, spring quarter (Cooper) MWF 11

34. Third-year Reading.
3 units, summer quarter (Cox) MWF 11

41. Third-year Composition.—By composition is meant, not translation from English, but the employment in connected prose of German material either gathered from reading or specially assigned by the instructor.
2 units, each quarter (Boezinger, Cox) By arrangement

II. Advanced and Graduate Courses

51. Advanced Composition.—The aim of this course is to develop correct, idiomatic, and adequate expression.
1 unit, any quarter (Boezinger) By arrangement

61. Directed Reading.—Prerequisite: Third-year Reading for three quarters, or an equivalent. Individual courses of reading, suited to

special needs and desires, and brief interviews, once a week, with the instructor. (Thirty-six hours of reading per unit.)
1 or 2 units, any quarter (COOPER, RENDTORFF) By arrangement

62. Individual Composition.—The purpose of this course is to supplement the work of the other composition courses, and to afford an opportunity to continue practice in composition, under criticism, as long as the student remains at the University.
1 unit, any quarter (RENDTORFF) By arrangement

63. Undergraduate Thesis.—Individual training in the aims and methods of research.
1 or 2 units, any quarter (COOPER, RENDTORFF) By arrangement

71. Lessing and His Time.
3 units

72. Herder and the Storm and Stress.
3 units, summer quarter, 1921 (RENDTORFF) TTh 10

73. Goethe, His Life and Works up to 1775.
3 units, autumn quarter (COOPER) [Not given in 1920-21]

74. Goethe, His Life and Works after 1775.
3 units, winter quarter (COOPER) [Not given in 1920-21]

75. Goethe's Lyrics and Ballads.
3 units, summer and autumn quarters, 1920 (COOPER) MWF 8

76. Goethe's Faust.—Course conducted in German.
4 units, autumn quarter, 1919 (COOPER)

77. Goethe's Faust in English Translation.—An all-English course, open to all students.
3 units, winter quarter, 1921 (COOPER) MWF 8

78. Schiller's Works.
3 units, spring quarter, 1920 and 1921 (RENDTORFF) TTh 10

81. History of German Literature up to the Nineteenth Century.
3 units (RENDTORFF)

82. History of the Nineteenth Century Literature.
3 units, spring quarter, 1920; winter quarter, 1921 (RENDTORFF) MWF 10

83. The Romantic School.
3 units

84. The Period of Realism.
3 units

85. Current Literary Movements.
3 units, summer quarter, 1921 (RENDTORFF) MWF 10

86. The Development of the Drama.
3 units (RENDTORFF)

87. The Development of the Novel.
3 units, summer quarter, 1920 (Cooper) TTh 11

88. The Development of Lyrical Poetry.
3 units

[91. History of Germany.—See History 57.]
3 units, autumn quarter, 1919; winter quarter, 1921 (Rendtorff) MWF 8

92. History of German Civilization.—Lectures, with stereopticon.
2 units, winter quarter, 1920; spring quarter, 1921 (Rendtorff) MW 2:05–4:05

101. Conversation.
1 unit, any quarter (Boezinger, Cox) By arrangement

103. German Orthography and Phonology.
2 units (Hempl)

104. German Morphology.
Two units (Hempl)

105. German Syntax.
2 units, spring and summer quarters, 1920; spring quarter, 1921 (Cooper) By arrangement

106. Modern Language Teaching.—Lectures on the various methods of teaching modern foreign languages, and the psychology involved.
1 unit, autumn quarter (Hempl) W 1:05

107. German Teachers' Course.—Instruction and practice in progressive methods; examination of textbooks and illustrative material.
2 units (Cooper) By arrangement

108. German Teachers' Course.—Lectures on the teaching of literature, and practical exercises.
2 units (Rendtorff) By arrangement

121. Gothic.
2 units (Boezinger) By arrangement

122. Old Norse.
2 units By arrangement

123. Old High German.
2 units (Boezinger) By arrangement

124. Middle High German.—Grammar and selected texts.
2 units, winter quarter (Rendtorff) By arrangement

125. The National Epic.—A continuation of course 124.
2 units, spring quarter (Rendtorff) By arrangement

126. The Court Epic.—A continuation of course 125.
2 units (Rendtorff) By arrangement

127. Minnesong.—A continuation of course 124.
2 units (Rendtorff) By arrangement

131. Phonetics.—Lectures and drill in general phonetics, for students of ancient or modern languages, including English.
3 units, winter quarter (Hempl) MWF 1:05

132. The Genesis of Grammar.
2 units, autumn quarter, 1920 (Hempl) TTh 1:05

133. The Genesis of Writing.
2 units, autumn quarter, 1919 (Hempl)

134. The Runes.—Lectures on the origin and development of primitive Germanic writing.
2 units (Hempl)

135. Introduction to Germanic Philology.
2 units

136. Comparative Grammar of German and English.
3 units, spring quarter (Hempl) MWF 1:05

141. Proseminary.
3 units By arrangement

142. Seminary.
3 units By arrangement

151. Master's Thesis.—The candidate reports weekly to the instructor in charge for criticism, the work extending over three quarters, as a rule.
1 to 3 units, any quarter (Cooper, Rendtorff) By arrangement

GREEK

Augustus Taber Murray, Professor.
Ernest Whitney Martin, Associate Professor.

The department accepts as major students those who wish to make their work in college conform to the traditional Arts course, in which Classical studies form an important element, and also makes provision for the thorough training of those who look forward to post-graduate work in the Classics either in this University or elsewhere.

Students who have had no Greek before entering the University may begin their study of the language in any quarter in introductory classes which are open to students in all departments of the University. Students who offer Greek on entrance will be registered in classes adapted to their needs.

The major requirements for graduation amount normally to forty-five credit units. These for the most part naturally represent work in

the study of the Greek language, especially in the case of students looking forward to post-graduate work in the Classics; but after the completion of courses 1-6 students desiring to do so may substitute for further work in the language the more general courses offered in the department, and with the consent of the departmental adviser a part of this elective work, when the tastes or special aims of the individual student justify it, may be taken in allied departments.

Together with the classes in the Greek language the department offers courses in Greek Literature, Greek Art, Greek History, and New Testament Literature, which, as above indicated, may be taken as a part of the required work of major students in Greek, but which presuppose no knowledge of the Greek language, and are open to students in all departments of the University.

Students applying for the High School Teacher's recommendation in Greek must have completed the following courses: for a major, 1–6 inclusive, nine units selected from courses 7–12, and 17 and 18; for a minor, 1–4, 6 (or an equivalent), 17, and 18.

In courses 1–3 the work is arranged so as to provide as far as possible individual instruction adapted to the needs of each student. In courses 4–6 the intensive study of a limited portion of the authors read is supplemented by sight translation and by readings and lectures by the instructor.

Undergraduate Courses

1. Introduction to Greek.—Grammar (Bryant and Lake); learning of word-lists; writing of simple sentences; reading of the Gospel of John (White).

5 units, any quarter (Martin, Murray) MTWThF 1:05

2. Xenophon.—Review of Greek Grammar; learning of word-lists from Xenophon; reading of selections from the Anabasis (Murray); writing of exercises based upon the text read.

4 units, winter and spring quarters (Martin, Murray) MTThF 2:05

3. Attic Prose Writers.—Systematic review of Greek syntax (Goodwin); learning of word-lists from the texts read; reading of portions of Cebes' Tablet (Parsons); Plato's Apology (Dyer-Seymour).

4 units, autumn and spring quarters (Martin) MTWF 8

4. Introduction to Homer.—Study of Homeric forms and meter (Seymour); learning of Homeric word-lists (Owen and Goodspeed); reading of selections from the Iliad (Monro).

4 units, autumn quarter (Martin) MWThF 9

5. The Greek Historians.—Selections from Herodotus (Smith); Thucydides, Book I (Morris); study of The Greek Historians (Bury).
4 units, winter quarter [Not given in 1920-21]

6. Introduction to Greek Poetry.—Reading of Euripides' Alcestis (Earle); the Greek Lyric Poets (Tyler); the Greek Anthology (Stadtmüller); Short History of Greek Literature (Wright).
4 units, autumn quarter (Martin) [Not given in 1920-21]

7. Euripides.—Reading of Medea (Moore); Hippolytus (Harry); lectures and a study of these dramatic themes as treated by later poets.
3 units, autumn quarter (Martin)

8. Sophocles.—Reading of Antigone (D'Ooge); Electra (Mather); lectures on the art of Sophocles.
3 units, winter quarter (Murray) MWF 11

9. Aeschylus.—Reading of Prometheus Bound (Allen-Wecklein); Agamemnon (Sidgwick); lectures.
3 units, spring quarter (Murray) MWF 11

10. Plato.—Reading of the Republic, Books I and II (Wells); lectures.
3 units, autumn quarter (Murray) [Not given in 1920–21]

11. Demosthenes.—Reading of the De Corona (Tyler); sight translation of Aeschines Against Ctesiphon (Richardson).
3 units, winter quarter (Murray) [Not given in 1920-21]

12. Pindar and Theocritus.—Reading of selected Odes of Pindar (Gildersleeve); reading of Theocritus (Cholmeley); lectures on Pastoral Poetry in ancient and modern literatures.
3 units, spring quarter (Murray)

Supplementary Courses

13. Individual Work.—Students and instructors meet each week for work suited to the needs of the individual.
1 to 4 units, each quarter (Murray, Martin) By arrangement

14. Journal Club.—Instructors and advanced students meet each week for the discussion of journals and new books of interest to Classical students.
2 units, winter and spring quarters (Murray, Martin)

15. Thesis Course.—Advanced students may under the guidance of the instructor undertake special studies for presentation in thesis form. This course is intended primarily to afford training in the methods of investigation.
2 units, each quarter (Murray, Martin) By arrangement

16. Modern Greek.—Grammar (Rangabe); reading of easy texts.
2 units, winter and spring quarters (Martin) [Not given in 1920–21]

17. Teachers' Course.—Lectures on methods, with practical training.
2 units, spring quarter (MURRAY) S 9

GENERAL COURSES

18. The Greek Epic.—Lectures on Homeric Poetry, with reading of the Iliad and Odyssey in English (Iliad, Lang, Leaf, and Meyers; Odyssey, Butcher and Lang).
3 units, winter quarter (MURRAY)

19. Greek Tragedy.—Lectures on the art of tragedy among the Greeks, with the study of selected plays in translation (Aeschylus, Morshead; Sophocles, Jebb; Euripides, Everyman's Library).
3 units, spring quarter (MURRAY) MWF 10

20. New Testament Literature.—Lectures on the origin, authorship, and characteristics of the books of the New Testament. Peak's Critical Introduction is used as a handbook.
3 units, spring quarter (MURRAY) MWF 10

21. Greek Literature, Prose Writers.—Lectures; reading in translations of selections from Herodotus, Thucydides, Xenophon, Plato, Demosthenes, Plutarch, and Lucian. Text-book, Short History of Greek Literature (Wright).
3 units, spring quarter (MARTIN)

22. Greek Literature, Poets.—Lectures; reading in translations of selections from the greater Greek poets with some reference to their influence on later literature. Text-book, Homer to Theocritus (Capps).
3 units, autumn quarter (MARTIN)

22b. Greek Literature, Poets, continued.
3 units, winter quarter (MARTIN)

23. Greek Myths.—The more important myths and legendary characters of early Greece are traced through Greek literature with some reference to their treatment in later literature. Lectures with assigned reading. Open only to students who have had Greek.
3 units, spring quarter (MARTIN) [Not given in 1920-21]

24. Greek History A.—From earliest times down to the end of the Peloponnesian War. Open to all students.
3 units, autumn quarter (MARTIN) [Not given in 1920-21]

25. Greek History B.—Form the Spartan Supremacy to the Roman Conquest. Open to all students.
3 units, winter quarter (MARTIN) [Not given in 1920-21]

26. Greek Sculpture.—Lectures, illustrated with photographs and lantern slides, on the history and character of Greek sculpture.
3 units, winter quarter (MURRAY) MWF 8

Graduate Courses

27. The Greek Seminary.—Graduate students and such others as may satisfy the director of their fitness for the work will meet each week during the year 1920-21 for the critical study of the *Agamemnon* of Aeschylus.

2 to 4 units, winter and spring quarters (Murray) S 10–12

Graduate students will also find it well to take courses 14, 15, and 17.

HISTORY

Ephraim Douglass Adams, †Edward Krehbiel, Arley Barthlow Show, Payson Jackson Treat, Professors.

Ralph Haswell Lutz, Percy Alvin Martin, ‡Edgar Eugene Robinson, Associate Professors.

‡Yamato Ichihashi, Reginald George Trotter, Assistant Professors.

Frank M. Russell, Instructor.

Frank Alfred Golder (summer), Henry Barrett Learned (winter, spring), Lecturers.

[With the coöperation of Professor Martin of the Department of Greek, Professor Rendtorff of the Department of Germanic Languages, and Professor Elmore of the Department of Latin.]

The Department of History provides a liberal course for the A. B. degree, offers opportunity for graduate study leading to higher degrees in certain selected fields in which the University is especially well equipped, trains teachers of History, and renders a general service to the other departments of the University.

In addition to its more specialized work, the Department offers a number of courses grouped as (I) Introductory and (II) Advanced Lecture Courses intended to meet the general needs of the University constituency. The underlying principle of these courses is that they shall be useful, not in the utilitarian sense, but in the sense that they aid to equip the student for his duties as a citizen and give him instruction that may be helpful in such lines as Law, Journalism, Library Research Work, State and National Public Service, or in business where a knowledge of domestic and foreign affairs is desirable.

For History majors the curriculum for the degree of A. B. is designed to familiarize the student with the fundamentals and methods of the chief branches of knowledge, and with the methods of historical

† Resigned, December, 1919.
‡ Absent on leave, 1919-20.

science. With this object in view, a general system of advice and requirement has been outlined, but it may be varied to suit the circumstances of the truly exceptional student. Under the four-quarter system 180 units are required for graduation. The general system of the History Department prescribes 40 units of History, of which 3 are required in an Introductory Seminar, and 6 in a Seminar Course. Additional requirements in other departments are, approximately, in Economics or Political Science 20 units, in English composition 10 units, a laboratory course in Science, and a reading knowledge of at least one foreign language by the end of the Junior year. Students of the Lower Division who intend, in the Junior year, to enroll as History majors are advised to have completed twenty units of college history, but this is not an absolute requirement.

Advanced Degrees.—Graduate students, candidates for advanced degrees, are desired and will be given personal guidance, but the purposeless graduate student will not be accepted by the Department. For the opportunities of graduate study in History see University Bulletin on Graduate Study.

Graduate students seeking to fulfill the requirements of the State Board of Education for the Teacher's Certificate will be given the necessary aid and opportunities, but will register as majors in the School of Education. (See University Bulletin of School of Education.)

The Teacher's Recommendation in History.—Applicants for the departmental recommendation, as a major, must have completed in a manner acceptable to the department at least 40 units of History, as follows: (1) Seminar Courses aggregating at least 6 units; (2) the Teachers' Course in History (History 100), 3 units; (3) 31 units in the group of courses selected from the following fields: Medieval and Modern History (courses 10–12, inclusive); English History (courses 16 and 17); Far Eastern History (courses 27–32, inclusive); American History (courses 21–23, inclusive); Latin-American History (courses 36–38, inclusive). History majors may substitute for any two of the Introductory Courses 10 units of Ancient History as offered by the Departments of Greek and Latin.

As prerequisite to the departmental recommendation in History for the high school teachers' certificate as a minor, the student must have completed at least 27 units in either European or American History, as follows:

1. For the minor in European History: (*a*) 15 units in the group of Introductory Courses selected from the fields of European History, English History, and Far Eastern History; (*b*) 3 units in an introductory Seminar Course; (*c*) 6 units in a Seminar Course; (*d*) the Teachers' Course in History, 3 units.

2. For the minor in American History: (*a*) 15 units in the group of Introductory Courses selected from the field of American History, and Latin-American History; (*b*) 3 units in an Introductory Seminar Course; (*c*) 6 units in a Seminar Course; (*d*) The Teachers' Course in History, 3 units.

Any student who has secured the minor recommendation of the department in either European or American History may thereafter earn the major recommendation by completing the 15 units of the Introductory Courses in the opposite group.

Students taking History as a major with the intention of preparing for Journalism are referred to the heading Journalism on page 183.

SUMMER QUARTER.—Summer Quarter courses are ordinarily divided into two halves, either of which may be taken independently.

I. INTRODUCTORY COURSES

[History of Greece.—See Greek 24 and 25.]

[History of Rome.—See Latin 29.]

10. European History, 395–1300.—A general course on the Middle Ages, dealing with selected phases of the period, and with special emphasis on economic and social progress. Open to all students.

5 units, autumn and *summer quarters (SHOW) MTWThF 11

11. European History, 1300–1648.—A continuation of History 10, with special emphasis on the Renaissance and the Reformation, and covering the broader movements of the later period up to the Peace of Westphalia. Open to all students.

5 units, winter quarter (LEARNED) MTWThF 11

12. Europe since 1648.—The period of absolutism and dynastic rivalries, and the origins and development of democracy and nationalism. Open to all students.

5 units, spring and *summer quarters (spring, 1920, LEARNED; summer, LUTZ) MTWThF 11

16. English History to 1485.—A general outline course especially intended for first-year students; lectures and outside reading. Emphasis is placed upon events and institutions which have influenced American History. Open to all students.

4 units, autumn quarter (TROTTER) MTWF 11

17. English History from 1485 to the present time.—A continuation of History 16.

4 units, winter quarter (TROTTER) MTWF 11

21. American History 1607–1789.—A survey of the English Colonization of the Atlantic Seaboard and of the westward movement of colonists of the British Empire, followed by a consideration of the Revolution and of the formation of the American government. Open to all students.

3 units, spring quarter (Robinson) (5 units, autumn, 1919, Russell) MWF 9

22. American History, 1789 to 1848.—Presidential administrations from Washington to Polk: the War of 1812; industrial changes and expansion; abolition; political changes; territorial expansion. Open to all except freshman students.

3 units, autumn quarter (Adams) (5 units, winter, 1919-20, Russell) MWF 9

23. American History, 1848–1919.—Slavery issues; the Civil War; reconstruction; industrial changes; new political parties and theories; the United States and world politics. Open to all except freshman students.

3 units, winter quarter (Adams) (5 units, spring, 1920) MWF 9

27. The Far East.—An account of the relations between Western nations and the peoples of Eastern Asia. Emphasis is placed upon international relations, especially since the middle of the 19th century, rather than upon the domestic history of the Eastern nations. The work of the Portuguese, Dutch, and British is studied and special attention is given to the rise of the British empire in India. Open to all except freshman students.

5 units, winter quarter (Treat) MTWThF 9

28. The Far East.—The relations of the West with China, Indo-China, Japan, and the Philippines. Open to all except freshman students.

5 units, spring and *summer quarters (Treat) MTWThF 9

31. History of Japan to 1600.—A survey of, and an attempt to interpret, the history of the ancient and medieval civilization of Japan. Particular attention is paid to the origin of the Japanese race, early influence of the continental civilizations, the Great Reform of 645, the Taiho Code of 701, the position of Buddhism and Buddhists in Nara civilization, Japanese language, Heian or classical culture of Japan, the rise of feudalism, the feudal institutions of Kamakurà, the Mongol invasions, Japan's foreign relations, the religions, Shintoism, Buddhism, and Christianity, and Hideyoshi's colossal ambitions. Open to all except freshman students.

4 units, autumn quarter (Ichihashi) [Not given in 1919-21]

32. History of Early Modern Japan, 1600–1854.—A detailed examination of feudal Japan under the Tokugawa in order to obtain the underlying factors in Japanese life. Special attention is given to the political

and social structure of the country, to Tokugawa laws and legal institutions, Japan's foreign and domestic commerce and commercial institutions, industrial development and industrial arts, fine arts, education, philosophy, science and literature, and Bushido. Open to all except freshman students.

4 units, winter quarter (ICHIHASHI) [Not given in 1919-21]

36. History of Spanish America.—An outline course dealing chiefly with the Spanish Colonial System and the Spanish-American Wars of Independence. Open to all except freshman students.

5 units, autumn quarter (MARTIN) MTWThF 9

37. History of South America since 1823.—A continuation of History 36. An outline course dealing with the history and institutions of the leading nations of South America; includes the discussion of such topics as the Monroe Doctrine, Pan-Americanism, and the relations between the United States and Latin America.

5 units, winter quarter (MARTIN) MTWThF 9

38. History of Latin America.—A general outline course dealing with the colonial expansion of Spain and Portugal in America and with the political, social, and industrial development of the leading republics of Latin America. The first six weeks will deal with the Spanish Colonial System and the Spanish-American Wars of Independence; the last six weeks will include a summary account of the historical evolution of the leading republics of Latin America from 1823 to the present time. Considerable emphasis will be placed upon the diplomatic relations between the United States and Latin America. Either section of the course may be taken separately.

4 units, summer quarter (MARTIN) [Not given in 1920-21]

40. The Issues of the Great War.—Lectures and reading. This course will be given as it was organized to meet the requirements of the S. A. T. C., but with additions to cover the work of the Peace Conference. Open to all.

2 units, spring quarter (ADAMS) TTh 9

II. ADVANCED LECTURE COURSES

The courses in this group are intended for students of at least junior standing, but sophomores may be admitted at the discretion of the instructor.

[History of Roman Civilization.—See Latin 37.]

50. The Italian Renaissance.—General lectures on the learning, art, and culture of the Renaissance in the fourteenth and fifteenth centuries.

3 units, spring quarter (SHOW) MWF 9

51. Europe since 1815.—A course of lectures on the conflict of Reaction and Liberalism, the Industrial Revolution, the emergence of class consciousness, nationalism and imperialism, the Great War and the terms of peace.

3 units, autumn quarter (LUTZ) (summer, 1920, GOLDER) MWF 10

53. International Arbitration.—The historical development in theory and in application of the ideals and principles of arbitration in international disputes.

3 units, spring quarter (———) MWF 10

55. Slavic Nationalities.—Their development, institutions, history, and characteristics. Lectures and reading.

3 units, winter quarter (———) MWF 9

56. History of Canada.—A survey of the evolution of the Dominion of Canada. Preliminary consideration of the periods of discovery, of early trade and settlement by French and British, and of the contest between France and Britain for empire, followed by a survey of the further development of the several colonies, their achievement of responsible government, their consolidation and expansion into a continent-wide federal dominion and growth to autonomous nationhood as a member of the British Empire Commonwealth. Emphasis also upon the significance in Canadian History of Canada's nearness to and relations with the United States.

4 units, spring quarter (TROTTER) MTWF 10

57. History of Germany.—A general survey, with particular emphasis on the period since 1848.

3 units, winter quarter (RENDTORFF) MWF 8

58. American Diplomatic History since 1789.

3 units, spring quarter, 1920 (RUSSELL) [Not given in 1920-21]

60. The Westward Movement (1790–1890).—A survey of the expansion of the American people into the Mississippi Valley, the American occupation of the Pacific Northwest and of California and the growth and development of the trans-Mississippi region. Particular emphasis is placed upon the History of the Far West in the period since 1850, and its influence upon national and international affairs.

3 units, autumn quarter (ROBINSON) [Not given in 1920-21]

62. History of the West.—A consideration of the political phases of the expansion of the American people; a presentation of the programs of the Federalist, Republican, Democratic, Whig, Populist, and Progressive parties relating to the West, and of the proposals and influence of such western leaders as Jackson, Benton, Lincoln, and others of more

recent date; an examination of new issues and new groups that have arisen in the West and their influence upon national party history.
3 units, winter quarter (Robinson) MWF 10

64. British-American Diplomatic Relations.—Lectures and reading on those incidents or conditions in foreign policy where the United States has come into conflict or contact with the foreign policy of Great Britain and her colonies; with a survey of the general purpose of British and of American foreign policy, throughout the hundred-year period.
3 units, spring quarter (Adams) MWF 11

66. History of Australasia.—An account of British colonization in Australia and New Zealand to the present time. Open to third-year students who have a satisfactory knowledge of English history.
3 units, autumn quarter (Treat) MWF 10

68. Modern Japan Since 1854.—A critical study of political and economic Japan since 1854 in order to determine the causes that enabled the nation to attain her present position in the world of politics and economics. Special attention is paid to political movements since the reopening of Japan to Western intercourse, and to the promulgation of a constitution in 1889, or the struggle between feudalism or bureaucracy and liberalism or democracy.
3 units, spring quarter (Ichihashi) [Not given in 1919-21]

70. History of Mexico and California.—A somewhat detailed study of the History of Mexico up to the present time, and of the history of California to 1848.
3 units, spring quarter (Martin) [Not given in 1920–21]

72. Latin American Institutions.—This course will deal with the recent history and present-day political institutions of the leading republics of Latin America. Considerable attention will also be paid to contemporary economic and social problems, and commercial relations with the United States. The first six weeks will be devoted chiefly to Argentina and Chile; the last six weeks to Brazil and the remaining Latin American republics. Either section of the course may be taken separately.
3 units, summer quarter (Martin) [Not given in 1920–21]

[**Law 10. Constitutional Law I.**—Accepted for credit in fulfilling the History requirements for the A. B. degree.
3 units, winter quarter (Cathcart)]

[**Law 11. Constitutional Law II.**—Accepted for credit in fulfilling the History requirements for the A. B. degree.
3 units, spring quarter (Cathcart)]

[**Law 14. International Law.**—A course given by the Law Department, strongly advised for History majors interested in world politics and relations. It will be accepted for credit in fulfilling the History requirements for the A. B. degree. Open, at the discretion of the instructor, to majors of other than the Law Deparment in their third or fourth year.
4 units, winter quarter (HUSTON)]

III. INTRODUCTORY SEMINAR COURSES

The courses in this group are intended primarily for History majors in their junior year, as preparation for senior seminars or graduate work. If a course is not filled by History majors, others may be admitted at the discretion of the instructor.

76. German Constitutional History.—An intensive study, from the documents, of selected phases of German constitutional development. A reading knowledge of German is desirable. Open to juniors, seniors, and graduates.
3 units, autumn quarter (SHOW) MWF 9

77. Selected Topics in Medieval History.
3 units, winter quarter (———) MWF 10

78. Nineteenth Century European Problems.—Papers and class discussions on important domestic and foreign problems of European nations. Open to History majors with two years' credit.
3 units, autumn quarter (———) MWF 10

80. English Constitutional History.—An attempt to explain the development, the underlying principles, and the operation of the English Constitution as well as to give a background for American Constitutional History. Conducted by means of an intensive study of documents, with outside reading and reports.
5 units, winter quarter (TROTTER) MTWThF 10

84. The French Revolution.—A general survey of the period, with assignment of special topics for study from documentary materials.
3 units, winter quarter (LUTZ) MWF 11

86. Relations Between California and the Federal Government.—An examination of materials revealing the problems of California and their relation to national development. The period 1869–1879 will be studied with emphasis upon problems arising out of the completion of the Pacific railway and the place of California in the national period of Reconstruction.
3 units, spring quarter (ROBINSON) M 3–5

88. American Diplomatic Relations.—Not a general survey of the field, but a specialized study of selected topics, with use of the available documentary material. Intended primarily for History majors, but open to junior students who are familiar with the elements of American and European History.

3 units, autumn quarter (Adams) (spring, 1920, Russell) MW 11

90. Tropical Colonization in the Far East.—A study in the present methods of the English, Dutch, French, and American governments in their tropical dependencies in the Far East. Investigation, discussion, and reports. Open to students who have taken courses 27 and 28.

3 units, spring quarter (Treat) MWF 11

92. Governments of the Far East.—A study of the present governmental systems of China and Japan. Open to students who have taken course 28.

3 units, spring quarter (Treat) [Not given in 1920–21]

96. History of Brazil.—A somewhat detailed study of the History of Brazil with special emphasis on the period since 1822. The course will include a comparison of Brazilian political institutions with those of Spanish America and the United States. Open to those who have had History 37 and to others with permission of the instructor.

3 units, autumn quarter (Martin) MWF 11

IV. Seminar Courses

[For History majors primarily, of senior or graduate standing.]

100. The Principles and Methods of History Teaching.—The content of the course is the same in both spring and summer quarters, but for the summer quarter the course is divided into two halves of about six weeks each, as follows:

First Half: The Principles of History Teaching. Lectures and discussions on such problems as the aims of History teaching, the apparatus of History teaching, courses of study, textbooks, class-room methods, etc.

Second Half: The Methods of History Teaching. Class-room practice in the teaching of History and related subjects, with collateral discussion and criticisms. Students who are qualified may take either term without the other. This course is required for the Teacher's Recommendation, but does not count in the required six units of seminar work for History majors.

3 units, spring and *summer quarters (Show) MWF 2–3

105. Seminar in Medieval History.—Subject for 1920–21: Immunity Documents of the Frankish Period.

3 units, spring quarter (Show) T 2–4

107. Seminar in Modern European History.—Subject for 1920–21 selected from the period since 1789. Open to senior and graduate students.

3 units, autumn, winter, and *summer quarters (Lutz)
(winter, spring, 1920, Learned; summer, 1920, Golder) Th 2–4

110. Seminar in the History of England and the British Empire.—Topics for 1920–21 selected from the Nineteenth Century.

3 units, autumn and spring quarters (Trotter) Th 2–4

113. Seminar in the History of the West.—A study of materials relating to the political phases of westward expansion.

3 units, winter quarter (Robinson) M 2–4

119. Seminar in American Diplomatic History.—Topics for 1920–21 selected from the period since 1865.

3 units, winter and spring quarters (Adams)
(autumn, winter, 1919-20, Russell) T 3–5

122. Seminar in American-European Relations.—Limited to candidates for advanced degrees.

Units various, any quarter except summer (Adams) By appointment

125. Seminar in the History of the Far East.—Each year some phase or period of the relations of the United States with the Far East will be studied, and each student will prepare a thesis on some special topic of investigation.

3 units, autumn, winter, and summer quarters (Treat) T 2–4

128. Seminar in Japanese History.—Individual investigation under advice and direction of the instructor.

3 units, autumn and winter quarters (Ichihashi) [Not given in 1919-21]

131. Seminar in Latin American History.—Subject for 1920–21: Diplomatic Relations between the United States and Latin America.

3 units, winter and spring quarters (Martin) M 2–4

140. Summer Graduate Work.—Students properly qualified under the University regulations, to pursue genuine graduate studies, will be given special attention and due credit allotted for the work accomplished. Such students will receive individual advice and guidance, whether in set courses or in special research. For the summer quarter in 1921, the fields in which graduate work may be thus carried, and the instructors in attendance are (1) Medieval History, Professor Show; (2) Modern European History, Professor Lutz; (3) Far Eastern History, Professor Treat.

Units, not to exceed total of 15 Hours by arrangement

HOPKINS MARINE STATION

Walter Kenrick Fisher, Director.

James Percy Baumberger, Ernest Gale Martin, James Ira Wilson McMurphy, Edith Ronald Mirrielees, J. M. D. Olmsted, Edwin Chapin Starks, Gertrude Van Wagenen.

The Hopkins Marine Station is situated at Pacific Grove on the south side of Monterey Bay, California. The Station, originally designated the Hopkins Seaside Laboratory (later, the Marine Biological Laboratory), was opened in 1892 and was the joint gift of Mr. Timothy Hopkins and the Pacific Improvement Company. A second building, donated by Mr. Hopkins, was added in 1893.

In 1916 a new location was secured, nearly five acres in extent, consisting of the main portion of Almeja Point, about half a mile east of the old site. The situation insures complete control of the coast line of the point, including an excellent sheltered landing place and harbor for boats of considerable size. The first building of the new station was erected in 1917. It is of reinforced concrete construction, approximately forty feet by eighty-three feet, and three stories in height. The first floor provides a physiological laboratory, containing a large floor aquarium, divisible into three compartments by movable partitions; a concrete-floored room for the storage of boats, collecting apparatus, etc., and for the sorting of collections; a large store room, men's lavatory, furnace room, photographic dark room, and janitor's rooms.

The second floor, into which the main entrance opens, is devoted to the three large general laboratories, accommodating twenty-eight, twenty-eight, and twenty-four students, respectively. Two private laboratories for instructors are also provided on this floor. The third floor contains a large library, with a generous fireplace, an adjoining room for records and writing, an advanced laboratory, six commodious private laboratories for investigators, and a rest-room for women. Fresh and salt water is provided in each laboratory, the sea water being pumped to a concrete tank upon the roof whence it is distributed to the various aquarium tables. Heating is provided by a hot-air system, and electric lights and gas are installed. From the third floor a stairway gives access to the flat, parapeted roof, where open-air aquaria may be set up as needed.

There are thus five laboratories available for classes and eight private laboratories for investigators.

In recognition of the aid rendered by Mr. Hopkins during the whole life of the laboratory, the Board of Trustees of the University changed

the name, October 26, 1917, to the Hopkins Marine Station of Stanford University.

Work of the Station

The Hopkins Marine Station fulfills a twofold function; first, it furnishes under exceptional natural advantages elementary and advanced instruction in biology; second, it provides for research work.

The Station is open the entire year. Investigators and special students can be accommodated at any time, but regular classes are scheduled for the Summer Quarter only. The Departments of Zoology and Physiology will schedule all their summer work at the Station, and not at Stanford University.

Admission and Fee

Students who are matriculated at the University may take scheduled work or special courses under the same conditions that obtain at the University. Others may enroll (as non-matriculated students) if in the judgment of the instructor they are sufficiently prepared.

A General Fee of forty dollars per quarter is payable by all students taking regular courses or pursuing special work. No other fees are charged.

To investigators prepared to carry on research, the use of the Station facilities is tendered free of charge.

Students must register for regular courses on the days specified in the University Calendar. Late registration will be permitted only with the approval of the director and of the instructors concerned.

Courses Scheduled for Summer Quarter, 1920

1. General Zoology.—A course designed to give a general view of the animal kingdom—the types of animals, general life processes, life histories, structures, development, and classification.

5 units (Fisher, Van Wagenen) Hours by arrangement

2. The Classification and Ecology of Marine Invertebrates.—The object of this course is to give the student the widest possible acquaintance with the animals which live along shore and in the plankton of Monterey Bay.

5 units (Fisher, Van Wagenen) Hours by arrangement

3. Comparative Anatomy of the Vertebrates.—A course to include dissections of vertebrate types, with comparative studies of the osseous, muscular, neural, and vascular systems. The course fulfills the requirements for major students in Zoology and Medicine.

(Starks) Hours and credit by arrangement

4. The Fishes of California.—A study of the marine fishes of California, their classification and structural characters. Collecting excursions will be made and individual observations and experimental work will be encouraged.

(Starks) Hours and credit by arrangement

5. Zoology Research.—Research or special work in the fields of morphology, taxonomy, and ecology.

(Fisher, Starks) Hours and credit by arrangement

6. Elementary Physiology.—This course is designed to give a general survey of the physiology of living things with special reference to marine animals and plants, and the application of the fundamental principles thus developed to the functions of other forms, including man. Textbook: The Human Body, Martin, Advanced Course, tenth edition.

For regularly enrolled undergraduates the requirements will be concurrent registration in General Zoology.

5 units (Martin, Baumberger, Olmsted) Lec. T. 1:30–2:30; Lab. MWF 1:30–4:30

7. General Physiology.—Advanced instruction and research in general physiology.

(Martin, Baumberger) By arrangement

8. The Algae.—An elementary course in which types of algae, both fresh-water and marine, will be studied. Field trips will give an opportunity to become acquainted with many forms in their natural environment.

5 units (McMurphy) Hours and credit by arrangement

9. Botanical Survey.—Students who are prepared to do so may study and map the distribution of chosen species of marine plants on the Station grounds, or may study and map the forms found in chosen areas. A copy of all maps accompanied by specimens noted thereon will be deposited with the Station.

(McMurphy) Hours and credit by arrangement

10. English Composition (English 2).—The study and practice of exposition.

3 units (Mirrielees) Hours by arrangement

11. English Classics (English 10).—A study of representative works of great English writers, with assigned reading and discussion.

5 units (Mirrielees) Hours by arrangement

12. Free Reading (English 13).—General reading under direction, in the field of the student's own interest, with weekly meetings for discussion of the reading done.

2 units (Mirrielees) Hours by arrangement

LATIN

†Henry Rushton Fairclough, Professor.
Duane Reed Stuart, Acting Professor (summer quarter).
Jefferson Elmore, Benjamin Oliver Foster, Associate Professors.
Eva May Newnan, Acting Instructor.
Millett Henshaw, Assistant in Instruction (summer quarter).

Major Students

The Department recognizes three classes of major students: (1) those who wish to pursue a course of liberal studies, including Latin as a prominent feature; (2) those who desire such a course as preliminary to professional studies; (3) those who, expecting to teach Latin, desire to be properly equipped for that purpose.

Major students who wish to qualify for teaching Latin must take courses 3, 4, 6, 7, 8, 10, 11, and 17, together with such other courses as are recommended by the Department. To other students more freedom of choice is allowed.

Students of other departments who wish to acquire a teaching major or minor in Latin should refer to the announcements of the School of Education, or consult some member of the Latin department.

I. Undergraduate Courses

translation, composition, syntax

The aim of the undergraduate courses in Latin is to give the student a somewhat systematic knowledge of the language and its development, an acquaintance with the representative authors of Latin literature, and some insight into the life, culture, and civilization of ancient Rome.

1a. Cicero.—Selected speeches. Open to those who have had two years of high-school Latin.
4 units, winter quarter (Newnan) MTWF 11

1b. Virgil.—Books 1–6 of the Aeneid. This course is intended for those who have passed in course 1*a*, but may be taken by others who have had two years of high-school Latin.
4 units, spring quarter (Newnan) MTWF 11

3. Terence and Cicero.—The Andria of Terence and the De Senectute of Cicero. Open to those who have completed courses 1*a* and 1*b*, or who have offered entrance subject 8*b*.
4 units, autumn quarter (Foster) MTWF 9

† Absent on leave, 1919-20.

4. Catullus and Horace.—Selections from Catullus and the Odes and Epodes of Horace. This course is complementary to course 3, but may be taken independently of it by those who have had courses 1*a* and 1*b* or an equivalent.

4 units, winter quarter (FOSTER) MTWF 9

4a. Elegy.—Selections from the elegies of Tibullus, Propertius, and Ovid. This course is open to those who have had the equivalent of four years of Latin in the high school.

4 units, spring quarter (FOSTER) MTWF 9

6. Prose Composition I.—The exercises are not based on a Latin text, but are drawn from present-day affairs and events, with the aim of imparting some facility in original composition.

2 units, spring quarter (FOSTER) TTh 9

7. Horace.—Satires and Epistles. Open to students who have had courses 3 and 4, or an equivalent. Attention is directed especially to the style and subject-matter, to Horace's influence on Latin literature, and to the salient features of the Augustan Age.

4 units, autumn quarter (NEWNAN) MTWF 9

8. Livy and Tacitus.—Selections from Livy's History and the Annals of Tacitus.

4 units, winter quarter (NEWNAN) MTWF 9

12. Syntax.—A study of the main features of Latin syntax, with especial reference to its development in late Latin and in the Romanic languages.

2 units, spring and *summer quarters (ELMORE) MTh 2:05–3:05

13. Prose Composition II.—Open to those who have had course 6 or an equivalent.

2 units, spring quarter (FOSTER) TTh 10

14. Juvenal and Martial.—Selections. Open to Seniors and other properly qualified undergraduates.

4 units, summer quarter (ELMORE) MTWF 8

15. Lucretius.—Selections from the De Rerum Natura. Informal discussions of the Epicurean philosophy.

4 units, autumn quarter (FOSTER) MTWF 8

17. Teachers' Course.—Lecture and conferences on methods of teaching Latin. Open only to advanced students.

2 units, spring quarter (ELMORE) MF 1:05–2:05

18. Seneca's Tragedies.—The Medea, Hercules Furens, and Troades. Open only to advanced students.

4 units, spring quarter (NEWNAN) MTWF 10

19. Livy.—The first decade. Open only to advanced students.
4 units, winter quarter (Foster) MTWF 8

II. General Courses

These courses are designed chiefly for those who are not special students of Latin, but are interested in the literary, artistic, or historical importance of the Mediterranean civilization.

29. History of Rome.—A general course, open to all students. Stress is laid on the development of Roman imperialism and on the relation of the empire to modern civilization.
3 units, spring quarter (Elmore) MWF 11

32. Latin Literature.—Lectures on the chief poets and prose-writers of Rome, with assigned readings in English translations. Open to all students.
2 units, spring quarter (Foster) TTh 8

33. The Classical Drama.—Lectures and reports on selected plays of the Greek and Roman drama, with reference to their dramatic structure and their relations in this respect to the modern drama. A knowledge of Greek is not required. Open as a four-unit course to students with at least two years of college Latin. Those who wish to do the reading in translations will register for two units only.
4 (or 2) units, summer quarter (Stuart) MTWTh 11

38. Roman Contributions to Modern Civilization.—A course designed to show in general the continuity of historical development and in particular the significant aptitudes, ideas, customs, and institutions which the modern world owes to the ancient. Open to all students.
2 units, summer quarter (Elmore) TTh 8

III. Graduate Courses

These courses are open to graduates in Latin, and are most profitable to those who have had some undergraduate work in Greek. The ability to read French and German is also very desirable, and, in the case of candidates for the degree of Ph. D., necessary. The aim of the courses is to give the student a thorough grasp and detailed knowledge of particular authors, and of certain periods and fields of literary activity, as well as a training in literary criticism, and an acquaintance with the methods of original research.

22a. Latin Seminary.—Roman Elegy, the work centering in Propertius. Interpretations and special investigations.
4 units, autumn quarter (Foster) TF 2:15–4:05

22b. Seminary in Roman History.—The history of Roman political institutions. Study of the sources and reports on special problems.
4 units, winter quarter (Elmore) TWThF 9

22c. Roman Biography.—Origin and development of Roman biographical writing, with special reference to the literary and rhetorical aspects. Special analysis and criticism of the literary and imperial biographies of Suetonius, the Agricola of Tacitus, and certain *vitæ* in the Scriptores Historiæ Augustæ.
4 units, summer quarter (Stuart) MTWTh 9

25. Introduction to Palæography.
2 units, winter quarter (Newnan) MW 2:05–3:05

LAW

Charles Andrews Huston, Joseph Walter Bingham, Arthur Martin Cathcart, Marion Rice Kirkwood, Chester Garfield Vernier, Clarke Butler Whittier, Professors.
William Brownlee Owens, Associate Professor.
Oscar Kennedy Cushing, Henrie Granville Hill, Lecturers.

The Law School

The Law School was established, as a department of the University, in 1893. Its purpose is to provide a thorough legal education for students who are fitted by their maturity and their previous academic training to pursue professional study under university methods of instruction. The curriculum covers three academic years and constitutes an adequate preparation for the practice of law in any English-speaking jurisdiction. Elective courses in Common Law Pleading, Code Pleading, and California Practice are offered.

A comprehensive group of courses in Public Law, of value not only to the law student but to the student who contemplates entering the diplomatic, consular, or other government service, is a feature of the curriculum. A similarly comprehensive group of courses in Commercial Law is provided to meet the needs of students seeking preparation for the various business vocations.

By taking advantage of the four-quarter system, with its opportunities for summer instruction, the Law curriculum may be completed in two and one-fourth calendar years.

Only college graduates and students who have completed substantially two years of work in this University, or its equivalent elsewhere, are

admitted as regular students. Under certain conditions persons who cannot meet these requirements, but who are eligible for admission to the University as regular students, may be admitted to the Law School as unclassified sudents, not candidates for a degree.

The Library

The Law Library contains 27,000 volumes, including complete sets of the English, Irish, Scotch, Australian, and Canadian reports, the reports of all Federal courts, a practically complete set of the reports of the American States, the Australian States, and the Canadian Provinces, the National Reporter system, the standard collections of cases, the standard English and American legal encyclopedias, the principal American, English, and Canadian digests and citators, sets of the leading American, British, Canadian, and Continental legal periodicals, together with a good collection of textbooks. There is also a somewhat complete collection of compiled laws, session laws, and other statutory material, both Federal and State, as well as British, Canadian, and Australian.

Admission to the Law School

Admission to the professional curriculum in law is granted to students duly enrolled in the University, as follows:

I. To students who have received the degree of Bachelor of Arts, or an equivalent degree, from this University or some other institution of recognized collegiate rank.

II. To students who have received credit for substantially two years of work (80 units) offered by this University, including the six units of English Composition; or the substantial equivalent of these 80 units in some other institution of recognized collegiate rank.

III. In the discretion of the Faculty of Law, to students who cannot meet the foregoing requirements, but who are eligible for admission to the University as regular students. Such students are termed "unclassified," and are given a certificate in lieu of the degree conferred upon regular students.

Admission to Advanced Standing

The Law School is a member of the Association of American Law Schools and grants admission to advanced standing only in compliance with the rule of the Association, as follows: Full advanced standing may, in the discretion of each member, be granted to students, but only for work done in schools which are members of this Association. In exceptional cases students from schools not members of this Association may be given advanced standing, but not higher than the second or

junior year, and then only after thorough written examinations in the first-year courses in contracts, torts, and real and personal property have been passed; provided, that if any one of these subjects is not regularly given in the first year, some other fundamental first-year subject may be substituted therefor.

The Degree of Bachelor of Arts

Students registered in the Law School will be recommended by the Law Faculty for the degree of Bachelor of Arts on compliance with either of the following sets of conditions:

A. The completion of the number of units and grade points required by the University for graduation with the Bachelor's degree providing that these units shall have included:

1. The six units of English Composition required for admission to the Law School; Introduction to the Study of Law (Law 1); the first-year professional law courses.

2. The requirements for the A. B. degree prescribed by any department of the University.

B. The completion of the number of units and grade points required by the University for graduation with the Bachelor's degree provided that these units shall have included the following:

1. The six units of English Composition required for admission to the Law School; Elements of Economics (5 units); Elements of Political Science (5 units); English or American History (10 units), selected from History courses 16, 17, 21, 22, 23, 24; English Constitutional History (History 80); Introduction to the Study of Law (Law 1). (Or the substantial equivalent of the above courses.)

2. The first-year professional law courses (see below).

Students who are recommended by the faculty of the Law School for the degree of Bachelor of Arts may satisfy the requirements for the degree of Juris Doctor by two additional years of professional law study.

Students who satisfactorily complete two years of University work, including six units in English Composition, may satisfy the requirements for the degree of Bachelor of Laws by three years of professional law study.

Fundamental courses, which are listed below as first-year courses, are prescribed. Courses listed as second- and third-year courses may be taken in any order consistent with their special prerequisites, but the courses in Administrative Law, Conflict of Laws, Constitutional Law, Private Corporations, Municipal Corporations, Evidence, and California Practice may not be taken, ordinarily, before the third year.

Preliminary Course

[Open to students of all departments who have 45 units of credit, and required of students in the Law School.]

1. Introduction to the Study of Law.—Nature, sources, and sanction of law; outline of the historical development of English and American courts and procedure; the content, classification, and determination of rules of law, including a consideration of legal rights and duties, the doctrine of *stare decisis* and the development of some of the more elementary rules of law by combining and comparing decisions; use of law books and the law library. Textbook to be announced.

4 units, spring quarter (Kirkwood)

First-Year Courses

2. Contracts.—The formation of contracts; offer and acceptance; consideration; contracts under seal. Parties affected by contracts: beneficiaries; assignees; joint and several contractors. The performance of contracts; express and implied conditions; anticipatory breach. Impossible and illegal contracts. Discharge of contracts. First quarter prerequisite to second quarter. Williston, Cases on Contracts, and selected cases.

5 units, autumn quarter; 6 units, winter quarter (Whittier)

2a. Contracts.—Part I. The formation of contracts; offer and acceptance; consideration; contracts under seal. Williston, Cases on Contracts, and selected cases.

5 units, summer quarter (Owens)

3a. Torts I.—Trespass to person, to real property, and to personal property; excuses for trespass; legal cause; negligence; contributory and imputed negligence; plaintiff's illegal conduct as a defense; duties of landowners; hazardous occupations; liability for animals. Ames and Smith, Cases on Torts (Pound's ed.), and Beale, Cases on Legal Liability.

4 units, autumn quarter (Cathcart)

3b. Torts II.—Deceit, defamation, slander, libel, privilege, malice; malicious prosecution, criminal and civil; interference with social and business relations, inducing breaches of duty, fair and unfair competition, strikes, boycotts, business combinations. Ames and Smith, Cases on Torts (Pound's ed.), and Beale, Cases on Legal Liability.

4 units, winter quarter (Cathcart)

4. Criminal Law.—Nature and sources of criminal law; crime as an act; attempts; criminal intent; circumstances affecting illegality of act; specific offenses; crimes against the person, larceny and allied offenses,

crimes against the dwelling-house, conspiracy. Beale, Cases on Criminal Law (3d ed.), and Beale, Cases on Legal Liability.
6 units, spring quarter (VERNIER)

5. Introduction to the Law of Real Property.—Tenure; estates in land with reference to quantity, absolute and qualified character, the time of enjoyment, number and connection of owners, marital interests, creation and transfer at the common law and under the statute of uses. Text to be announced.
3 units, winter quarter (KIRKWOOD)

6. Agency.—Nature of relation; appointment; liabilities of principal for agent's torts, contracts, crimes; liabilities of agent; parties to writings; undisclosed principal doctrines; delegation of agency; termination; ratification. Prerequisites: 4 units of Contracts (Law 2) and 4 units of Torts (Law 3). Wambaugh, Cases on Agency.
6 units, spring quarter (HUSTON)

7. Personal Property.—Possessory interests: Nature, importance, and legal effect. Possession; finders; bailments; liens; pledges, etc. Conversion. Case book to be announced.
4 units, autumn quarter (OWENS)

SECOND- AND THIRD-YEAR COURSES

10. Constitutional Law I.—Making and changing constitutions; function of judiciary in enforcing constitutions; separation and delegation of powers; political rights; personal liberty; interstate privileges and immunities of citizens; operation of fourteenth amendment; due process and equal protection of law; procedure; police power; taxation; eminent domain. Hall, Cases on Constitutional Law.
4 units, winter quarter (CATHCART)

11. Constitutional Law II.—General scope of federal powers; foreign relations, Indians, aliens; territories, dependencies, new states; federal taxation; regulation of commerce; intergovernmental relations; protection to persons accused of crime; retroactive laws in civil cases; state laws impairing obligation of contracts; jurisdiction of federal courts. Hall, Cases on Constitutional Law.
3 units, spring quarter (CATHCART)

12. Administrative Law and Public Officers.—Administrative regulations; jurisdiction, discretion, adjudication; enforcement of orders; habeas corpus; mandamus; certiorari; equitable jurisdiction in public law. Freund, Cases on Administrative Law.
4 units (HUSTON) [Not to be given in 1920-21]

13. Municipal Corporations.—Nature; creation, alteration, and dissolution; internal organization; powers; liabilities on contract and for

torts; remedies. Macy, Cases on Municipal Corporations, and selected California cases.

4 units, winter quarter (HUSTON)

14. Public International Law.—Nature of International Law, relation to Municipal Law. International relations in time of peace; definition, recognition, and classification of states; jurisdiction on land and on the high seas; acquisition and transfer of jurisdiction; non-belligerent settlement of international controversies. International relations as modified by war; effect of war as between enemies; relations between belligerents and neutrals. Open to all law students and to students in other departments by permission. Case book to be announced.

4 units, winter quarter (HUSTON)

15. Private International Law (Conflict of Laws).—A study of the extent to which considerations of the limitations of the sovereignty of a state and considerations of foreign law influence the decisions of courts in cases involving events in foreign jurisdictions, particularly on questions of legal domicile, legal capacity, family relations, guardianship, divorce, incorporation, estates of decedents, liability for alleged torts or breaches of contract, taxation, extent, control, and disposition of property interests, jurisdiction of courts, and effects of foreign judgments. First quarter prerequisite to second quarter. Beale, Cases on Conflict of Laws (larger edition).

3 units, autumn quarter, and 4 units, winter quarter (BINGHAM)

16. Admiralty.—Admiralty jurisdiction, basis; maritime contracts, torts, and crimes; maritime liens, *ex contractu, ex delicto,* priorities, discharge; bottomry and respondentia obligations; salvage; general average. Ames, Cases on Admiralty.

3 units (KIRKWOOD) [Not to be given in 1920-21]
3½ units, summer quarer, 1st half (7 recitations weekly) (KIRKWOOD)

17. Roman Law.—A comparative study of some leading conceptions of the Roman Law, and its modern developments in the Civil Law of Continental Europe and America, with the related conceptions of the Anglo-American Common Law. Required reading.

3 units (HUSTON) [Not to be given in 1920–21]

18. Title to Land.—I. Original titles founded on possession, prescription, and accretion. II. Modern conveyancing: execution of deeds, description of the property conveyed, creation of easements by implication, covenants for title, estoppel by deed, fraudulent conveyances, recording. Aigler, Cases on Titles to Real Property.

5 units (KIRKWOOD) [Not to be given in 1920–21]

19. Landlord and Tenant.—Creation of relationship; duration of tenant's interest, remedies of landlord for non-performance of tenant's

obligations, remedies of tenants against landlord, covenants running with the land as between landlord and tenant, rights and duties of landlord and tenant with respect to third persons. Case book to be announced.
3 units, spring quarter (KIRKWOOD)

20. Rights in the Land of Another.—Natural rights, easements, covenants running with the land, public rights, franchises, rents. Gray, Cases on Property, Vol. II (2d ed.) and selected California cases.
4 units (KIRKWOOD) [Not to be given in 1920–21]
3½ units, summer quarter, 2d half (7 recitations weekly) (KIRKWOOD)

21. Wills.—Devolution of property of a decedent by intestate succession. The nature of wills and testaments. Probate and its effect. Testamentary capacity. Testamentary intent. Effect of fraud, undue influence, or mistake on the validity of a will. Formalities essential to execution of a valid will. Incorporation by reference. Nullification of wills by (1) revocation; (2) ademption or lapse of legacies or devises; (3) by other circumstances. Republication of wills. Gray's Cases on Property, Vol. IV (2d ed.), and selected cases.
4 units (BINGHAM) [Not to be given in 1920–21]

22. Future Interests.—Vested and executory interests; construction of limitations of future interests; powers. Prerequisite: course 5. Kales' Cases on Future Interests.
5 units, autumn quarter (BINGHAM)

23. The Law Against Perpetuities and Restraints on Alienation.—The common law rule against perpetuities. Illegal conditions; restraints on alienation. The California law on perpetuities and restraints on alienation. Prerequisite: credit for course 22. Kales' Cases on Future Interests, and selected statutes and cases.
3 units, winter quarter (BINGHAM)

24. Water Rights.—A course in the intensive study of the law of water supply rights with special reference to water rights in the Western States. Extent of riparian rights and liberties; the law of prior appropriation; relative validity of titles to riparian and non-riparian rights and liberties of use; extinguishment of riparian rights; rights in diffused and underground water; rights in interstate streams. Federal and state powers of control. Bingham's Cases on Water Rights.
4 units, summer quarter, 1st half (8 recitations weekly) (BINGHAM)

25. Mining Law.—A course on mining titles under the Federal mining acts, with especial reference to mining rights in the Western States and Alaska. Costigan, Cases on Mining Law.
4 units, summer quarter, 2d half (8 recitations weekly) (BINGHAM)

26. Persons and Domestic Relations.—Infants: period of infancy; infants' contracts and conveyances, torts, and crimes. Husband and wife; rights of husband as to wife's property; rights of each as to earnings, services, and society of the other; husband's interest in damages for tort to wife; husband's liability for torts or contracts of wife; husband's duty to support wife and wife's authority to bind husband by her contracts; married women's contracts, conveyances, and devises; estoppel of married women; liability of married women for torts and responsibility for crimes; contracts, conveyances, and suits between husband and wife; husband's right to custody of wife. Marriage: promise to marry and breach; marriage as a contract or relation; annulment; divorce; separation. Woodruff, Cases on Domestic Relations.

4 units, summer quarter, 1st half (8 recitations weekly) (VERNIER)

27. Quasi-Contracts.—Origin and nature of quasi-contracts: Benefits conferred in misreliance on right or duty; general principles; misreliance resulting from mistake of law; misreliance or invalid contract, on contract unenforceable because of Statute of Frauds, on illegal contract, on contract impossible of performance, on contract unenforceable because of breach, on supposed requirement of valid contract, on non-contract obligation, on ownership of property: Benefits conferred through dutiful intervention in another's affairs: Benefits conferred under constraint; constraint of duress, of legal proceedings, of tax or assessment: Action for restitution as alternative remedy for breach of contract and for tort. Thurston, Cases on Quasi-Contracts.

4 units, autumn quarter (CATHCART)

28. Public Utilities.—The nature, rights, and duties of public service callings; railroads and canals; telephone and telegraph; gas, water, irrigation, and other public utilities. Burdick, Cases on Public Service.

4 units (CATHCART) [Not to be given in 1920–21]

29. Bailments and Carriers.—Bailments in general, including bailments for hire, for services to be performed, and for hired use. Special classes of bailments involving ordinary liability: pledges; warehousemen. Special class of bailments involving exceptional liability; innkeepers; common carriers of goods; common carriers of passengers. Case book to be announced.

4 units (———)

30. Sales.—Subject-matter of the contract; transfer of property and title; destruction of the goods and risk of loss; obligations of seller and buyer; rights of unpaid seller against the goods; remedies of the seller on the contract; remedies of the buyer on the contract; Statute of Frauds. Woodward, Cases on Sales.

6 units, autumn quarter (VERNIER)

31. Bills and Notes.—Negotiability; form and inception, form of bill and of note, acceptance, delivery, consideration; negotiation, transfer, holder in due course; liability of parties, maker and acceptor, drawer and indorser, transferor; discharge; effect of the Negotiable Instruments Law. Colson's Huffcut's Cases on Bills and Notes.

6 units, winter quarter (VERNIER)

32. Partnership.—Nature of a partnership, its purposes, and members; creation of partnerships; nature of partner's interest; firm name and good will; mutual rights and duties of partners; actions between partners, at law and in equity; powers of partners; liability for acts of partners in contract and tort; general liability of partners; dissolution and notice; consequences of dissolution; dissolution agreements respecting debts; distribution of assets to creditors, and between partners; limited partnerships. Case book to be announced.

4 units, autumn quarter (OWENS)

33. Private Corporations.—The nature of a corporation; promotion of corporations; corporate powers; corporate liability for torts and crimes; unauthorized corporate action, including doctrines of *de facto*, incorporations, and *ultra vires* acts; officers, stockholders, and creditors of corporations; reorganization of corporations. Warren, Cases on Corporations (2d ed.).

6 units, autumn quarter (HUSTON)

34. Insurance.—Marine, fire, and life insurance. Insurable interest in various kinds of policies; concealments; misrepresentations; warranties and other matters affecting the validity of the contract; amount of recovery; subrogation; waiver, estoppel, election; powers of agents; assignees and beneficiaries.

3 units (———)

35. Suretyship.—Personal suretyship compared with real suretyship (mortgages, pledges, liens, etc.); suretyship obligations compared with insurance and indemnity obligations; guaranty and other forms of suretyship in relation to the Statute of Frauds; suretyship in transactions involving negotiable instruments; fidelity contracts and judicial bonds; surety's defenses due to original defects in his obligation or to its subsequent discharge; surety's right to subrogation, indemnity, contribution, or exoneration; creditor's right to surety's securities. Ames, Cases on Suretyship.

4 units (VERNIER) [Not to be given in 1920–21]

36. Mortgages.—All forms of mortgage security, both real and chattel; essential elements of legal and equitable mortgages; legal and equitable rights, powers and remedies of mortgagor and mortgagee with respect

to title, possession, rents and profits, waste, collateral agreements, foreclosure, redemption; priorities; marshaling; extension of mortgages; assignment of mortgages; discharge of mortgages. Kirchwey, Cases on Mortgage.

4 units, summer quarter, 2d half (8 recitations weekly) (WHITTIER)

37. Equity I: Contracts.—Development and nature of equity jurisdiction; specific performance of contracts; reformation and rescission of contracts. Ames, Cases on Equity Jurisdicition, Vols. I and II.

5 units, winter quarter (KIRKWOOD)

38. Equity II: Trusts.—The Anglo-American system of uses and trusts. Nature of a trust; other sorts of interests and relations distinguished; the creation, transfer, and extinguishment of trust interests, express, resulting, and constructive; validity of trusts; effect of statutes; charitable trusts; priorities and relative validity of competing equities; importance of the legal title to one claiming adversely to a trust or other equitable interest; remedies of creditors against the trust property; duties of the trustee. Scott, Cases on Trusts.

6 units, spring quarter (BINGHAM)

39. Equity III: Torts and Special Equitable Remedies.—Specific reparation and prevention of torts; bills of interpleader; bills of peace; bills *quia timet:* cancellation of contracts, removal of clouds on title, perpetuation of testimony, bills to secure rights of future enjoyment; bills of account. Ames, Cases on Equity Jurisdiction, Vols. I and II.

3 units, spring quarter (KIRKWOOD) [Not to be given in 1920-21]

40. Damages.—Respective functions of court and jury in estimating damages; exemplary, liquidated, nominal, direct, and consequential damages; avoidable consequences; counsel fees; certainty, compensation, damages for non-pecuniary injuries; value; interest; and damages in certain actions of tort and contract. Beale, Cases on Damages (2d ed.).

3 units (———)

41. Bankruptcy.—Jurisdiction of the United States and the several States; who may be a bankrupt; who may be petitioning creditors; acts of bankruptcy; what property passes to the trustee; provable claims; duties and powers of the bankrupt and his trustee; protection, exemptions, and discharge. Williston, Cases on Bankruptcy.

4 units, spring quarter (VERNIER)

42. Common Law Pleading.—The common law forms of action, especially the causes of action which could be litigated in each form of action and the relation of the forms of action to each other: the substantial allegations required in a declaration or complaint founded on any of the more usual causes of action at law: the pleas of the defendant, the de

fenses available under each and especially the nature and scope of the common law general issues. Principles of pleading dealt with in the course on Code Pleading, so far as possible, will not be considered in this course. Whittier and Morgan, Cases on Common Law Pleading.

4 units, autumn quarter (WHITTIER)

43. Code Pleading.—The civil action; parties; splitting and joining actions; the complaint, including the caption, the statement of facts and the prayer for relief; the answer, including general and specific denials, affirmative defenses and counterclaims; the demurrer; the reply; motions; bills of particulars; amendment and aider; construction of pleadings. Prerequisite: course 42. Selected cases.

4 units, spring quarter (CATHCART)
4 units, summer quarter, 1st half (8 recitations weekly) (CATHCART)

44. Evidence I.—Introductory topics: Witnesses: competency; privilege; examination; impeachment; rehabilitation. Rules of exclusion: conjectural evidence; character evidence; hearsay and the exceptions to its exclusion; opinion. The proof of writings: authorship; contents. Real evidence. Open to students having 50 units of credit in law. Thayer, Cases on Evidence (2d ed.).

6 units, spring quarter (WHITTIER)

45. Evidence II.—This course deals with certain procedural and substantive law topics commonly considered in connection with evidence though not strictly a part of that subject. They are: functions of court and jury; judicial notice; presumptions; burden of proof; the parol evidence rule including construction of instruments. Open to students having 50 units credit in law. Thayer, Cases on Evidence (2d ed.).

3 units (WHITTIER) [Not to be given in 1920–21]

46. California Practice I.—Organization and jurisdiction of courts; court records and files; proceedings prior to judgment, including: service and return of summons and motions relating thereto, appearances, provisional remedies, such as attachment, arrest, etc., *lis pendens*, the trial, exceptions and findings, verdict; the judgment, its entry and satisfaction; proceedings subsequent to judgment, including: stay of execution, costs, execution, motion for new trial, appellate proceedings; probate and administration proceedings. Prerequisite: course 43. Open to students having 50 units of credit in law. California Code of Civil Procedure; also selected California cases.

3 units, winter quarter (OWENS)

47. California Practice II.—Trial practice, special proceedings, including writs of certiorari, mandamus, and prohibition; introduction to

jurisdiction and procedure of Federal courts. Prerequisites: courses 43 and 46. Open to students having 50 units of credit in law. California Code of Civil Procedure; also selected California cases.

3 units, spring quarter (Owens)

48. Moot Court.—

A. Instruction in Legal Bibliography and the use of law books.

B. Argument of cases on submitted statements of facts; briefs; preparation of opinions.

2 units, summer and spring quarters (Owens)

49. Business Law.—Contracts, their formation, operation, and discharge; sales of goods; insurance; suretyship and guaranty; bailments and carriers; negotiable instruments; principal and agent; master and servant; partnerships and joint-stock companies; corporations; property in land and movables; mortgages; landlord and tenant. This course may not be taken by law students, but is open to all other students who have 80 units of credit. Selected cases.

3 units, winter and spring quarters (continuous) (Owens)

Special Lectures

In addition to the regular professional courses, a few special lectures, most of them of a practical character, are given each year by experienced lawyers of the California Bar.

LIBRARY

George Thomas Clark,† Librarian.
Charles V. Park, Assistant Librarian and Acting Librarian for the year 1920.
Helen Binninger Sutliff, Chief Cataloguer.
Alice Newman Hays, Reference Librarian.
Elizabeth Hadden, Chief of Order Division.
Louise Ophüls, Medical Librarian.
Minna Stillman, Document Librarian.
Thomas Lafayette Dyer, Law Librarian.

The Library is open during term time on week days from 8 a. m. to 10 p. m., except on Saturdays, when it is closed at 5 p. m. The main reading room, periodical room, and Timothy Hopkins room are open on Sundays from 2 p. m. to 6 p. m. During vacations the hours are from 8:30 a. m. to 4:30 p. m., Saturdays to 12:30 p. m. The shelves

† Absent on leave until January, 1921.

are open to members of the faculty, and to students engaged in advanced work upon the recommendation of their instructors. Books, other than works of reference, not required for class use, are lent for a period of two weeks. A handbook giving more complete information relative to the Library and how to use it has been published and will be mailed upon request.

The Library is available for use by all registered students without the payment of additional fees. Visitors regularly attending lecture courses or other University exercises, but not registered, are entitled to the privileges of the Library upon payment of a fee of $1.25 per quarter.

The Library building is particularly adapted to meet the needs of advanced and graduate students. It contains nine rooms in which seminar classes may be held; and one large room which serves as a reading room for students in seminar classes. Tables on each floor of the stack make it possible for any graduate student to work in easy reach of the material in his field. The document room serves to bring together, and so make accessible, the University's large collection of city, state, and federal documents. The collection is particularly strong in United States, British, Australasian, and Canadian documents. Other countries are less well represented. The 35,000 volumes now assembled in this room offer a rich and varied field for research.

Including the departments of Law and Medicine the Library contains upward of 320,000 volumes. The income of the Jane Lathrop Stanford Jewel Fund, certain other special funds, and fees provide amply for its maintenance and growth. Noteworthy special collections are as follows:

The Jordan Library of Zoology.—A collection consisting largely of works on ichthyology, to a considerable extent made up of a vast number of authors' separates, which have been accumulated by Chancellor Jordan, bound in convenient form, indexed, and catalogued. The more voluminous publications, such as the works of Cuvier, Lacépède, Bloch, Bleeker, Günther, and others, are well represented. These, supplemented by the proceedings of various societies and institutions, make a collection of books of great value to advanced students and investigators in ichthyology. The library is conveniently arranged, and is situated in the Zoology building near the laboratories and collections.

The Barbara Jordan Library of Birds.—A memorial collection presented by Chancellor Jordan, and to which frequent additions are made. While some of the older texts are not represented, it is a good working library of ornithology and contains the principal modern works on the subject.

The Hopkins Railway Library.—A collection of approximately 10,000 volumes and pamphlets dealing with the subject of transportation. In 1892 Mr. Timothy Hopkins, of San Francisco, presented to the University his private library on railroads, consisting of about 2,000 books, personally providing for its maintenance and growth for many years. The collection is general in scope, intended to embrace all subjects touching on the building, maintenance, and operation of railways. It is especially rich in state and government reports, as well as in reports of individual railroads both in the United States and Europe, with much material pertaining to their history.

The Hildebrand Library.—In 1895 the University acquired the library of Professor Hildebrand, of Leipzig, containing more than 5,000 volumes and pamphlets relating largely to Germanic languages and literature, the seventeenth and eighteenth centuries being especially well represented, and including also a notable collection of three hundred old dictionaries. The value of the books is greatly enhanced by the manuscript notes of Professor Hildebrand.

The Flügel Collection, which formed the more important part of Dr. Ewald Flügel's library, was purchased in 1915 and numbers about 4,000 volumes. It contains copies of the 15th century editions of Vincent of Beauvais, a number of important and rare 16th century writers (e. g., Bale's Catalogus, 1557–59; Luther, 1539–59; More, 1557; Holinshed, 1586), and a good many 17th century 4tos and folios (Islip's Chaucer, Selden, Browne, Stow, etc.). The history of philology is well illustrated (Spelman, Junius, Hicks, et al.). The library has now a solid foundation in these fields and can supply a large amount of material for the study of certain aspects of the 16th and 17th centuries.

The Thomas Welton Stanford Australasian Library.—A good working collection of books relating to Australia and New Zealand. It is especially rich in early voyages, travels, and descriptions. Several hundred volumes of parliamentary reports of the Australian states, the Commonwealth, and New Zealand, are included. The publications of learned societies, such as the Royal Societies of New South Wales and Victoria, the Australian Museum, and the New Zealand Institute, are well represented, while considerable pamphlet material also is available.

British Parliamentary Papers.—An unusually complete set of British government documents from 1801 to date, some 6,500 volumes, of which the first 3,500 volumes constituted a special gift to the Library, made by Mrs. Stanford in 1900. The set contains not only the full papers laid before Parliament from the customary departments of government, such as diplomatic, colonial, and financial papers, but also the most valuable reports of the special committees and royal commissions,

offering material for research in almost every field of knowledge. Taken in connection with the Library's excellent file of United States Documents, and of the governmental publications of Canada, and of Australasia, the collection offers unusual facilities for study in the public undertakings of English-speaking peoples.

The Jarboe Collection on the French Revolution.—Acquired in 1910. It contains original materials, principally in French, relating to the Revolutionary and Napoleonic era. Two features of the collection are of particular interest to advanced students of history—the original and contemporaneously printed pamphlets, of which many are unusual; and the memoirs, of which there is a comprehensive selection.

The Law Library.—A library of about 27,000 volumes, selected with care and adequate for the study of English and American law. It contains practically complete sets of the reports of the courts of England, Scotland, Ireland, Canada, the United States and the several states, together with a valuable collection of statutes, treaties, and periodicals.

The Lane Medical Library.—Founded by the directors of Cooper Medical College in accordance with the bequest of Mrs. L. C. Lane. The library contains about 48,150 volumes, and is particularly rich in its collection of medical and allied periodicals. The leading domestic and foreign journals are currently received. The new library building, erected in 1912, is a fireproof structure of Colusa sandstone, and is located opposite the other medical buildings, on the corner of Sacramento and Webster streets, San Francisco.

The Branner Geological Library.—The Geological Library (room 333) is the result of twenty-five years of painstaking acquisition by Dr. John Casper Branner. It includes a vast wealth of material relating to geology, paleontology, mineralogy, geography, mining and metallurgy. It is especially well equipped with files of journals and the transactions of scientific societies, together with a large collection of state and government reports.

MATHEMATICS

Robert Edgar Allardice, Rufus Lot Green, Hans Frederik Blichfeldt, Professors.

Heinrich Wilhelm Brinkmann, Sadie Gilmore Hackley, Anna Louise Wright, Assistants in Instruction.

The courses in this department have been arranged to meet the wants of two classes of students—students who are or expect to be majors in

Mathematics, and students who desire to include some mathematics as a part of their University course. Students in Engineering are provided for in the Department of Applied Mathematics.

For students who intend to be majors in Mathematics the following program of work is recommended: In the first year, courses 3 and 4; in the second year, courses 5 and 6; in the third year, courses 10, 11, and 12; in the fourth and graduate years, selections from the remaining courses offered. The advanced courses are also open to properly prepared students during their first three years in the University. The advanced courses will, for the most part, be given once in two or once in three years, and it is hoped that advanced students will thus have the opportunity of studying the more important branches of modern mathematics.

Students who intend to become majors in Mathematics are recommended to begin the study either of French or of German in their freshman year.

Students who desire to take one or more years of Mathematics as a part of a liberal training are recommended to begin their work in this department with one or more of the courses 1, 2, 3, and 7.

The Teacher's Recommendation.—For a minor in Mathematics the following courses are required: 1, 2, 3, 4, 5, 9; for a major, course 6, in addition to these courses.

1. Trigonometry.—Elementary courses with applications involving logarithmic calculation.

5 units, autumn and *winter quarters (Wright, Hackley) (autumn) MTWThF 9, 10; (winter) MTWThF 10

2. Solid Geometry.—Elementary course.

4 units, winter quarter (Wright) MTThF 10, 11

3. Algebra.—Fundamental laws, degree, symmetry, indeterminate coefficients, remainder theorem, factors, introduction to theory of equations. Presupposes entrance credit in elementary algebra.

5 units, autumn and winter quarters (Green) MTWThF 8

4. Coördinate Geometry.—An elementary course in the analytic geometry of the conic sections. Presupposes course 3.

5 units, spring quarter (Green) MTWThF 8

5. Coördinate Geometry.—A continuation of course 4.

5 units, autumn quarter (Green) MTWThF 10

6. Differential and Integral Calculus.—An elementary course.

5 units, winter and spring quarters (Allardice) MTWThF 10

7. General Course.—A brief and elementary survey of the principles of algebra, trigonometry, analytic geometry, and calculus. Presupposes elementary algebra and plane geometry.
5 units, winter and spring quarters (BLICHFELDT) MTWThF 10

9. Plane Geometry.
5 units, autumn quarter (ALLARDICE) MTWThF 11

10. Advanced Calculus.—A continuation of course 6.
5 units, autumn quarter (ALLARDICE) MTWThF 9

11. Differential Equations.
5 units, winter quarter (BLICHFELDT) MTWThF 9

12. Theory of Functions.—An elementary course.
5 units, spring quarter (ALLARDICE) MTWThF 9

13. Vector Analysis.
4 units, autumn quarter (BLICHFELDT) TWThF 9

14. Introduction to Modern Coördinate Geometry.
5 units, winter quarter (GREEN) [Not given in 1919–20]

15. Advanced Algebra.
4 units, autumn quarter (BLICHFELDT) TWThF 10

16. Mathematics of Investments.
5 units, winter quarter (GREEN) MTWThF 10

17. Introduction to Actuarial Theory.
5 units, spring quarter (GREEN) MTWThF 10

21. Projective Geometry.
5 units, winter quarter (ALLARDICE) MTWThF 11

22. Non-Euclidean Geometry.
4 units, spring quarter (BLICHFELDT) TWThF 11

23. Selected Readings.
3 or 4 units (ALLARDICE, GREEN, BLICHFELDT) By arrangement

SUMMER COURSES, 1920

1. Algebra.
4 units (BRINKMANN) TWThF 9

2. Coördinate Geometry.
4 units (BLICHFELDT) TWThF 10

3. Trigonometry.
5 units (BRINKMANN) MTWThF 10

4. Calculus.
4 units (BRINKMANN) TWThF 11

22. Non-Euclidean Geometry.
4 units (BLICHFELDT) TWThF 11

MEDICINE

William Ophüls, Dean.
George Burbank Somers, Secretary of the Medical Faculty.

Admission to the Medical School

1. Graduation from high school (or its equivalent), comprising fifteen recommended units, as defined by the University for admission to the freshman class. (*Special students* are not admitted to registration in Medicine.)

2. Three full years of college work, totaling 135 quarter units (90 semester units), of a grade equivalent to that of Stanford University (counting as many grade points as there are units). The required work in these three years is that laid down by the Association of American Medical Colleges in English, Physics, Chemistry, and Biology, together with a reading knowledge of either French or German, and additional work in Chemistry as indicated below.

3. In addition to the A. A. M. C. minimum in Chemistry the University requires Qualitative and Quantitative Analysis and Organic Chemistry.

No conditions are permitted. Candidates for admission who in June will have completed the above requirements except for a few units in collegiate subjects should plan to make up these deficiencies in full by attendance at summer sessions during the ensuing summer.

In practice the above requirements as applied to the pre-medical courses of Stanford students work out about as follows:

English Composition and Literature, 9 units.
Chemistry 1 (General Inorganic Chemistry), 3 units.
Chemistry 2 General Inorganic Chemistry), 1 unit.
Chemistry 3 (General Inorganic Chemistry), 3 units.
Chemistry a (General Inorganic Laboratory), 3 units.
Chemistry *b* (General Inorganic Laboratory), 3 units.
Chemistry *d* (Qualitative Analysis), 5 units.
Chemistry *f* or *g* (Quantitative Analysis), 5 units.
Chemistry 10 (Organic Chemistry), 5 units.

Total, 28 (or 24) quarter units; 18⅔ (or 16) semester units.

[Students with entrance credit in Chemistry do not take courses 2 and *a*.]

Physics 1*a* (Mechanics and Heat), 5 units.
Physics 1*b* (Electricity and Light), 5 units.
Physics 1*c* (Modern Physics), 3 units.

Total, 13 quarter units (8⅔ semester units).

Zoology 1 (General Zoology), 5 units.
Zoology 11 (Comparative Anatomy of the Vertebrates), 5 units.
Zoology 12 (Mammalian Anatomy), 3 to 5 units, or Zoology 13 (Vertebrate Embryology), 5 units.

(Botany 1*a*, 1*b*, or 1*c*, 5 units, may be substituted for Zoology 13, the latter being taken during the first Medical year.)

Total, 15 quarter units (10 semester units).

French or German reading knowledge.—This varies somewhat with the ability of the student, but implies at least the equivalent of a year's work of 15 (quarter) units in addition to High School courses.

(Applicants for admission to the first five quarters in Medicine should communicate with the Registrar, Stanford University, California; those desiring to enter the upper classes of the Medical School (*i. e.*, from the sixth to the twelfth quarters), should communicate with the Dean, Stanford University Medical School, corner Sacramento and Webster Streets, San Francisco, Cal.)

The Curriculum in Medicine

The required period of study for the degree of Doctor of Medicine is twelve quarters plus the interne year. The work of the first five quarters is given at Stanford University and is devoted to anatomy, bacteriology, chemistry, embryology, histology, neurology, experimental pathology, physical diagnosis, and physiology. The next seven quarters are devoted to work in the pharmacological, pathological, and clinical laboratories, and in the hospital wards and the out-patient department in San Francisco. The last year is spent in hospital work.

In order to correlate the work of some of the divisions and to facilitate research in others, all courses in Medicine, except those in anatomy, bacteriology, chemistry, and physiology, are given in San Francisco. By reducing the number of required hours to approximately the number decided upon by the Association of American Medical Colleges, the student's opportunity for taking optional and elective courses has been increased and time obtained for thesis work.

Fees

The tuition fee in the Medical School is $50 per quarter. There is also an incidental fee of $13 per quarter ($12 in San Francisco). A special fee of $5 per quarter is also charged for the first five quarters, to cover cost of material; other deposits to cover breakage or loss of apparatus and materials may be required in any department or division, such deposits being returnable, less charges for breakage, loss, or wear and tear of apparatus, or for materials used. The total deposits for this purpose may vary from $10 to $20 per annum.

I. DIVISION OF ANATOMY

Arthur William Meyer, Frank Mace McFarland, Professors.
Clara S. Stoltenberg, Associate Professor.
Edgar Davidson Congdon, Assistant Professor.
Emily M. Bartlett, Assistant.

[For outline of courses see under Anatomy, p. 114.]

II. DIVISION OF BACTERIOLOGY AND EXPERIMENTAL PATHOLOGY

Wilfred Hamilton Manwaring, Professor.
Charles Victor Burke, Edwin William Schultz, Instructors.

[For outline of courses see under Bacteriology and Experimental Pathology, p. 119.]

III. DIVISION OF CHEMISTRY

Robert Eckles Swain, Professor.

16. Physiological Chemistry.—(See course 16, Department of Chemistry.)

5 units (55 hours), autumn and *summer quarters (Swain) MTWThF 8

1. Physiological Chemistry.—A laboratory course. Should be preceded by courses *d* (Qualitative Analysis), *f* or *g* (Quantitative Analysis), and 10 (Organic Chemistry) in the Department of Chemistry. (See Chemistry *l*.)

4 units (132 hours), autumn and *summer quarters (Swain)
5 afternoons, 1:05–4:05

(Students enrolled as Medical students will be required to deposit $15 breakage fee for course 2; other University students will pay the usual fee of $30.)

IV. DIVISION OF HYGIENE AND PUBLIC HEALTH

William Ophüls, Acting Executive.

1. Hygiene.—Three quarters required.

1 hour (11 hours), spring quarter, junior year T 1–2
1 hour (22 hours), autumn and winter quarters, senior year F 4–5

V. DIVISION OF MEDICINE

Albion Walter Hewlett (Executive), Professor.
William Fitch Cheney, Harold Phillips Hill, Andrew William Hoisholt, Clinical Professors.

THOMAS ADDIS, ERNEST CHARLES DICKSON, HAROLD KNIEST FABER, Associate Professors.

HARRY EVERETT ALDERSON, WALTER WHITNEY BOARDMAN, CHARLES M. COOPER, WALTER FRANK SCHALLER, Associate Clinical Professors.

W. EDWARD CHAMBERLAIN, HENRY HERBERT YERINGTON, Assistant Professors.

GEORGE DE FOREST BARNETT, WILLIAM REDWOOD PRICE CLARK, MILLICENT MARY COSGRAVE, THOMAS GEORGE INMAN, HENRY GEORGE MEHRTENS, HARRY REEVES OLIVER, ALFRED CUMMINGS REED, †ROLAND BEATTY TUPPER, JULIAN MAST WOLFSOHN, Assistant Clinical Professors.

CLEMENT H. ARNOLD, JOSEPH H. CATTON, MAUDE NOBLE HAVEN, WILLIAM KENNEY, MARY H. LAYMAN, ARTHUR ALOYSIUS O'NEILL, PHILIP HALE PIERSON, JAY MARION READ, NATHALIE SELLING, CHESTER DURBIN SEWALL, HARRY A. WYCKOFF, Clinical Instructors.

WALLACE H. BARNES, JOHN CHRISTY CONDIT, W. EDWARD GLAESER, NORBERT J. GOTTBRATH, FRANK A. KINSLOW, FREDERICK W. KROLL, HUMPHREY PERRIN PALMER, HARRY J. PRUETT, HARRY SPIRO, Assistants.

ROBERT EUGENE BERING, Lecturer on Drug Addictions.

GUY STEVENS FARRINGTON, Lecturer on Speech Defects.

MORTON R. GIBBONS, Lecturer on Medical Aspects of Insurance.

ARTHUR JOHN RITTER, Lecturer on Mental Deficiency.

[For statement in regard to required work, see Announcement of the School of Medicine.]

COURSES FOR SECOND-YEAR MEDICAL STUDENTS

1. Physical Diagnosis.

4 hours (88 hours), winter and spring quarters (winter, BARNETT, at Stanford University; spring, REED, TUPPER, in San Francisco) MTh 9:30–10:30; S 10:30–12:30

Or, 7½ hours (82 hours), autumn quarter (REED, TUPPER, in San Francisco) M 9:30–11; TTh 9:30–11:30; S 10:30–12:30

2. Clinical Pathology.

4 hours (44 hours), autumn or spring quarter (ADDIS) F 8:30–10:30; S 8–10

FOR THIRD-YEAR MEDICAL STUDENTS

3. Diseases of the Thoracic Organs.

4 hours (44 hours), autumn or spring quarter (DICKSON) MTh 9:30–11:30

4. Diseases of the Digestive Tract.

4 hours (44 hours), spring or summer quarter (BOARDMAN or SEWALL) MTh 9:30–11:30

5. Infectious Diseases.

3½ hours (38 hours) winter quarter (DICKSON, BOARDMAN) M 9:30–11, Th 9:30–11:30

†Absent on leave.

6. Diseases of the Kidneys, the Blood, and of Metabolism.
3 hours (33 hours), autumn or summer quarter (Addis, Havens) TW 8:30–9:30; S 10:30–11:30

7. History Taking.—(Elective.)
3 hours (33 hours), any quarter (Arnold) Daily 9:30–11:30

8. Tropical Diseases.—(Elective.)
2 hours (22 hours), spring quarter (Reed) T 8:30–9:30; S 10:30–11:30

9. Diseases of the Endocrine Glands.—(Elective.)
1 hour (11 hours), spring quarter (Arnold) T 1:30–2:30

10. Experimental Medicine.—(Elective.)
3 hours (33 hours). autumn quarter (Hewlett) TTh 4:30–5:30; F 3–4

11. Physical Therapeutics.
2 hours (22 hours), spring quarter (Langnecker) M 2–3; T 2:30–3:30

12. Dietetics.—Lectures and recitations. (Elective.)
2 hours (22 hours), spring quarter (Addis) Th 4:30–5:30; F 3–4

13. Practical Therapeutics and Prescription Writing.
4 hours (44 hours), winter quarter (Hewlett) MT 1:30–3; F 1:30–2:30

14. Roentgenography.—(Elective.)
1 hour (11 hours), winter quarter (Chamberlain) T 3–4

15. Serology.—(Elective.)
2 hours (22 hours), spring quarter (Oliver) W 2:30–4:30

16. Clinical Bacteriology.—(Elective.)
(Dickson) By arrangement

17. Pediatrics: Recitation.
2 hours (44 hours), autumn, winter, and summer quarters (Faber, Cosgrave) (autumn) TW 10:30–11:30; (winter) W 8:30–9:30; S 10:30–11:30; (summer) TW 10:30–11:30

18. Infant Feeding, and Formula Preparation.
2 hours (22 hours), any quarter (Yerington, Cosgrave, Layman, Sloan) F 9:30–11:30

19. Communicable Diseases.—(Isolation Hospital.)
2 hours (22 hours), any quarter (O'Neill) F 10–12

20. Lectures on Pediatrics.—(Elective.)
1 hour (11 hours), autumn, spring, or summer quarter (O'Neill, Ritter, Faber, and others) Th 1:30–2:30

21. Neurology.
2 hours (44 hours), winter and spring quarters (Inman) TW 10:30–11:30

For Fourth-Year Medical Students

22. Set Clinic in Medicine.—(Lane Hospital.) (Elective.)
1 hour (11 hours), any quarter (Hewlett, Boardman, Dickson) M 11:30–12:30

23. Set Clinic in Medical Specialties.—(Demonstration of patients from Children's Ward and Lane Hospital.) (Elective.)
1 hour (11 hours), any quarter (Faber, Yerington, Alderson, Schaller, Pierson) W 11:30–12:30

24. Ward Work—Lane Hospital.—Students taking this course are required to take Medicine 22 also.
7 hours (77 hours), any quarter (Hewlett, Cheney, Boardman, Dickson) TWTh 8:30–9:30; S 10–11:30; W 10:30–11:30; M or Th 9:30–11:30

25. Ward Work and Clinics.—(San Francisco Hospital.) (One quarter is required; a second quarter may be elected.)
7 hours (77 hours), autumn, *winter, and *spring quarters (Hill) MW 9–12; F 10–11:30

26. Out-patient Work in Internal Medicine.—(Elective.)
4 to 6 hours (44 to 66 hours), any quarter (Dickson, Reed, Sewall) MTh 9:30–11:30; W 10:30–11:30; S, 10–11

27. Out-patient Work in Tuberculosis.—(Elective.)
2 hours (22 hours), any quarter (Pierson) MTh 9:30–11:30

28. Tuberculosis Clinic.—(San Francisco Hospital.) (Elective.)
1 hour (11 hours), autumn, winter, and spring quarters (Clark) F 8:30–9:30

29. Neurology Clinic.—(San Francisco Hospital.) (Elective.)
2 hours (22 hours), autumn, *winter, and *spring quarters (Wolfsohn) S 10–12

30. Out-patient Work in Neurology.—Limited to two students. (Elective.)
6 hours (66 hours), any quarter (Schaller, Mehrtens) MTh 9:30–11:30; W 10:30–11:30; S 10–11

31. Cutaneous Medicine.
2 hours (22 hours), autumn and *winter quarters (Alderson) M 8:30–9:30; W 9:30–10:30

32. Out-patient and Ward Work in Pediatrics and Cutaneous Medicine.
6 hours (66 hours), any quarter (Faber, Alderson, Cosgrave, Yerington) MTh 9:30–11:30; W 10:30–11:30; S 10–11

33. Roentgenography.—(Elective.)
1 hour (11 hours), autumn and *winter quarters (Chamberlain) By arrangement

34. Psychiatry.
1½ hours (50 hours), autumn, winter, and spring quarters (Hoisholt) M 1:30–3

35. History of Medicine.
1 hour (11 hours), winter quarter (Ophüls, Stillman, Hewlett, Spalding) T 3:30-4:30

36. Jurisprudence.
1 hour (11 hours), autumn quarter F 3–4

37. Military Medicine.
1 hour (11 hours), winter quarter W 3–4

38. Industrial Accident Insurance.—(Elective.)
1 hour (11 hours), spring quarter (M. R. Gibbons and others) M 4–5

39. Life Insurance, Medical Aspects.—(Elective.)
1 hour (11 hours), autumn quarter (M. R. Gibbons and others) T 4–5

VI. DIVISION OF OBSTETRICS AND GYNECOLOGY

Alfred Baker Spalding, Professor.
George Burbank Somers, Clinical Professor.
Ludwig Augustus Emge, Assistant Professor.
Henry Walter Gibbons, Frank Robert Girard, Henry Augustus Stephenson, Assistant Clinical Professors.
Chester Biven Moore, Karl Ludwig Schaupp, Clinical Instructors.
Harry E. Clay, Lewis Michelson, Albert Victor Pettit, Clarence O. Sappington, Assistants.
Francis B. Carpenter, William E. Stevens, Lecturers.

(Students before graduation must pass in at least 165 hours of Obstetrics and 100 hours of Gynecology, and must attend at least 10 confinements.)

1. Obstetrics, Laboratory.
3 hours (33 hours), autumn quarter (Stephenson) MF 1:30–3

2. Obstetrics.
2 hours (22 hours), autumn or spring quarter (autumn, Spalding; spring, Stephenson) TTh 8:30–9:30

3. Obstetrics.
3 hours (33 hours), winter quarter (Spalding) (MF 8:30–9:30, W 1:30–2:30

4. Obstetrics.
2 hours (22 hours), spring quarter (Spalding) MF 8:30–9:30

5. Ward Rounds.
1 hour (11 hours), any quarter (autumn and winter, Emge; spring and summer, Stephenson) W 1:30–2:30

6. Manikin Exercises.
1 hour (11 hours), autumn and winter quarters (Schaupp) W or F 1:30–2:30

7. Women's Clinic.—(Elective.)
2 hours (22 hours), any quarter (Gibbons, Girard) TWThF 9:30–11:30

8. Cystoscopy.—(Elective.)
1 hour (11 hours), any quarter (Stevens, Michelson) Th 9:30–10:30

9. Hospital Obstetrics.
2 weeks (56 hours), any quarter (autumn, winter, spring, Spalding; summer, Emge)

11. Operating Room, Lane Hospital. — (Elective.) Prerequisite: courses 2, 3, and 4.

1 hour (11 hours), any quarter (autumn, winter, spring, SPALDING; summer, EMGE) F 1:30–2:30

12. Operating Room, San Francisco Hospital.—(Elective.) Prerequisite: courses 2, 3, and 4.

1 hour (11 hours), autumn, *wniter, and *spring quarters (GIBBONS) S 8:30–9:30

13. Gynecology, Laboratory.—(Required.)

3 hours (33 hours), spring quarter (EMGE) M 3–4, F 1:30–3

14. Obstetrics, San Francisco Hospital.—(Elective.)

1 hour (11 hours), autumn or summer quarter (SCHAUPP) F 11–12

15. Set Clinic in Obstetrics and Gynecology.

1 hour (22 hours), any quarter (autumn, winter, spring, SPALDING; summer, EMGE) S 11:30–12:30

16. Graduate Courses.—Work will be arranged in the Women's Clinic or in the laboratory for Obstetrics and Gynecology to meet the needs of special workers.

VII. DIVISION OF PATHOLOGY

WILLIAM OPHÜLS, Professor.
JEAN REDMAN OLIVER, Associate Professor.

(The following courses in Pathology are required of medical students: Pathology 1 (*b*), one quarter; Pathology 3, three quarters.)

1. General Pathology (b).—Prerequisites: Histology, Bacteriology, General Pathology (*a*).

6 hours (66 hours), autumn or spring quarter (OPHÜLS, OLIVER) M 8–9, MW 1:30–4

2. General Pathology.—An optional course of weekly recitations covering the same ground as course 1.

1 hour (11 hours), autumn or spring quarter (OLIVER) By arrangement

3. Special Pathology.—Prerequisite: General Pathology (*a*) and (*b*).

4 hours (132 hours), any three quarters (OPHÜLS, OLIVER) (autumn, spring, summer) Th 2:30–4:30; (winter) Th 1:30–3:30; all quarters S 8:30–10:30

4. General Pathology (a).—A course covering the same ground as the course offered in the Department of Bacteriology and Experimental Pathology at Stanford University. (Optional.)

8 hours (88 hours), summer quarter (OLIVER) MW 8:30–9:30, 1:30–4:30

5. Clinico-Pathological Demonstrations.—For fourth-year students.

1 hour (11 hours) (OLIVER) F 11:30–12:30

6. Research Work in the Pathological Laboratory.—(By arrangement.) A deposit of $10 will be required to cover such material as is used by the student in the course of his work. (Optional.)

OPIHÜLS

VIII. DIVISION OF PHARMACOLOGY

ALBERT CORNELIUS CRAWFORD, Professor.

1. Pharmacology and Materia Medica.

(*a*) 9 hours (99 hours), autumn and *spring quarters; (*b*) 5 hours (55 hours), winter quarter (CRAWFORD)

(*a*) TThF 1:30–4:30; (*b*) M 3–5, Th 3:30–5, F 2:30–4

2. Graduate Course.—The laboratory is open throughout the year to properly qualified students who wish to carry on independent work in Pharmacology.

(CRAWFORD)

3. Pharmacy.—A short optional course of demonstrations in pharmacy will be given.

IX. DIVISION OF PHYSIOLOGY

ERNEST GALE MARTIN, Professor.

JAMES ROLLIN SLONAKER, FRANK WALTER WEYMOUTH, Assistant Professors.

JAMES PERCY BAUMBERGER, GEORGE DANIEL SHAFER, Instructors.

[See courses 3, 4, 5, 6, and 7 in the Department of Physiology.]

X. DIVISION OF SURGERY

STANLEY STILLMAN (Executive), EMMET RIXFORD, Professors.

ALBERT BROWN MCKEE, RUFUS LEE RIGDON, EDWARD CECIL SEWALL, Clinical Professors.

FRANK ELLSWORTH BLAISDELL, JOHN FRANCIS COWAN, LEONARD WHEELER ELY, Associate Professors.

LEO ELOESSER, HARRINGTON BIDWELL GRAHAM, HARVARD YOUNG MCNAUGHT, MELVILLE E. RUMWELL, Associate Clinical Professors.

JOHN ADOLPH BACHER, HANS BARKAN, PHILIP KINGSNORTH GILMAN, HARRY LESLIE LANGNECKER, Assistant Clinical Professors.

EDWARD B. TOWNE, Instructor.

H. ALEXANDER BROWN, JAMES ROOT DILLON, HAROLD AUGUSTUS FLETCHER, ROSS WALLACE HARBAUGH, LESTER O. KIMBERLIN, RODERIC O'CONNOR, CAROLINE B. PALMER, OTIS ALLEN SHARPE, CHESTER HOWARD WOOLSEY, Clinical Instructors.

JOHN ROBERT BURROWS, HUBERT W. DUDLEY, JOSIAH H. KIRK, HAROLD VON DER LIETH, HAROLD STAATS MOORE, MERTEN JAMES PRICE, JOHN P. STRICKLER, FREDERICK L. WRIGHT, Assistants.

STERLING BUNNELL (Surgery), GEORGE W. HARTMAN (Genito-Urinary Surgery), HENRY A. L. RYFKOGEL (Surgery), BURT S. STEVENS (Surgery), ALFRED J. ZOBEL (Proctology), Lecturers.

[For statement in regard to required work, see Announcement of the School of Medicine.]

COURSES FOR SECOND-YEAR MEDICAL STUDENTS

1. Principles of Surgery.
4½ hours (50 hours), autumn or spring quarter (COWAN or GILMAN) M 11–12:30; WF 10:30–12

2. Fractures and Dislocations.
2 hours (22 hours), autumn or spring quarter (BLAISDELL) W 8:30–10:30

3. Surgical Anatomy.
2 hours (16 hours), autumn or spring quarter (BLAISDELL) MW 4–5

4. Surgical Diseases of Extremities.
2 hours (22 hours), autumn or spring quarter (RUMWELL, COWAN) TTh 11:30–12:30

FOR THIRD-YEAR MEDICAL STUDENTS

5. Surgical Diseases of the Abdomen.
2 hours (22 hours), autumn or spring quarter (STILLMAN or COWAN) MF 4–5

6. Surgical Diseases of Head and Neck.
2 hours (22 hours), winter quarter (RIXFORD) TF 4–5

7. Surgical Diseases of Thorax.
1 hour (11 hours), spring quarter (COWAN, TOWNE) T 4–5

8. Surgical Clinic, Lane Hospital.—(Two quarters required.)
1 hour (22 hours), any quarter (COWAN or GILMAN) T 11:30–12:30

8a. Set Clinic, Stanford Hospital.—(Two quarters required.)
1 hour (22 hours), any quarter (STILLMAN, COWAN, or GILMAN) Th 11:30–12:30

9. Out-patient Clinic.—(Two quarters required.)
2 hours (44 hours), any quarter (STILLMAN or RUMWELL) TW 9:30–10:30

10. Surgical Ward, Lane Hospital.—(Two quarters required.)
1 hour (22 hours), any quarter (COWAN, GILMAN) Th 8:30–9:30

11. Surgical Laboratory: Tumors.
3 hours (33 hours), autumn or summer quarter (COWAN or TOWNE) T 1:30–4:30

12. Surgical Laboratory: General Surgical Pathology.—(Two quarters required.) Prerequisite: course 11.
3 hours (66 hours), two quarters (COWAN, ELY) W 2:30–5:30

13. Preliminary Ophthalmology.
1 hour (11 hours), autumn or spring quarter (MCKEE or BARKAN) M 3–4

FOR FOURTH-YEAR MEDICAL STUDENTS

14. Surgical Clinic, Lane Hospital.—(Two quarters required.)
1½ hours (17 hours), any quarter (STILLMAN, COWAN, or GILMAN) S 8:30–10

14a. Set Clinic, Stanford Hospital.
1 hour (22 hours), any quarter (STILLMAN, COWAN, GILMAN) Th 11:30–12:30

14b. Set Clinic in Surgical Specialties, Stanford Hospital.
1 hour (11 hours), any quarter (MCKEE, SEWALL, ELY, RIGDON) T 11:30–12:30

15. Surgical Clinic, San Francisco Hospital.
4 hours, one or more quarters (autumn, winter, RIXFORD; spring, summer, RIXFORD or ELOESSER) T 8:30–11:30, Th 11–12

[Three quarters selected from courses 14 and 15 are required. Two quarters may be taken at the Lane Hospital and one at the San Francisco Hospital, or vice versa, as the student may elect. Total, 110 to 121 hours.]

16. Out-patient Clinics.—(Elective.)
1 hour (11 hours), any quarter (STILLMAN or GILMAN) W 9:30–10:30

17. Wards of Lane Hospital.—(Elective.)
1 hour (11 hours), any quarter (COWAN, GILMAN, or KIMBERLIN) W 9:30–10:30

18. Operative Surgery on the Cadaver.—(Elective.)
2 hours a week for 6 weeks (12 hours), winter or summer quarter (TOWNE) By arrangement

19. Orthopedic Surgery.
3 hours (33 hours), autumn, winter, or spring quarter (ELY, LANGNECKER) TF 10–11:30

20a. Genito-Urinary Surgery.—(Three quarters required, one quarter each at Lane Hospital and San Francisco Hospital; the third quarter at either hospital.)
1½ hours for 9 weeks (50 hours), autumn, winter, and spring quarters (Lane Hospital, RIGDON; San Francisco Hospital, DILLON) Th 8:30–10 (S. F. H.); F 8:30–10 (L. H.)

20b. Genito-Urinary Surgery.—(Elective.)
1 hours (11 hours), winter or spring quarter, lectures only (DILLON) M 4–5
2 hours (22 hours), summer quarter, clinics only, Lane Hospital (DILLON)

21. Ophthalmology.—(Three quarters required.)
2 hours (22 hours), autumn, winter, and spring quarters; 2 hours, summer quarter, clinics only (MCKEE, BARKAN) Lec. T 1:30–2:15, Clinic TTh 2:15–3:30

22. Otology, Rhinology, and Laryngology.—(Three quarters required.)
1 hour (33 hours), autumn, winter, and spring quarters (SEWALL) Lec. Th 1:30–2:30
In addition, 33 hours of clinic work, autumn, winter, and spring quarters (MCNAUGHT, BACHER, KIRK); 2 hours a week for 11 weeks, out-patient clinic, summer quarter
3 hours (33 hours) clinic, S. F. Hospital, spring quarter (GRAHAM) By arrangement

23. Special Courses.—For advanced students and physicians. (*a*) Ear, Nose, and Throat; (*b*) Surgical Pathology; (*c*) Anesthetics.

MEMORIAL CHURCH

The Rev. David Charles Gardner, Chaplain.
Warren D. Allen, Organist

Services

Daily Chapel, with address, 7:50 a. m.
Sunday, Divine Worship and Sermon, 11 a. m. (Holy Communion as announced.)

Organ Recitals

Sunday, 4 p.m.; Tuesday and Thursday, 4:15 p.m.

MILITARY TRAINING

Leroy P. Collins, Major Field Artillery, Professor of Military Science and Tactics.
Stuart A. Howard, Major Infantry, Howard Eager, Captain Field Artillery, Assistant Professors.

Infantry and Field Artillery Units of the Reserve Officers' Training Corps are maintained for the purpose of fitting students to become reserve officers of the army while at the same time they are pursuing their regular college courses; thus enabling them, if called into active service, to best perform the military duties which their capabilities as college graduates fit them for in the service of their country. These courses are planned to cover a period of four academic years. Any student electing either of these courses is expected to do so with the idea that he will complete the first two years' basic course, and, if possible, elect and complete the last two years' advanced course; and that upon its satisfactory completion, and upon being awarded a degree by the University, he will accept from the President of the United States, a commission as Second Lieutenant in the Infantry or Field Artillery Reserve Corps. The completion of the basic course, after entering upon it, except for good and sufficient reasons approved by the head of the department and the President, is a prerequisite for graduation. Students who complete the basic course and are recommended by the head of the department and the President may take the advanced course by agreeing in writing to complete it and to attend the six weeks' summer instruction camp at the end of the junior year.

All students receive uniforms, equipment, and textbooks. Those taking the advanced course receive $16 per month in addition, and all

expenses to and from, and while attending, camp; altogether a student receives from the government during his four years course, compensation amounting to more than $800. After being commissioned, those who so desire may serve with the army as second lieutenants for a period of six months at a rate of pay of $100 per month and allowances for that grade. All others are placed on the inactive reserve.

The University has at its disposal for use in the courses infantry equipment comprising rifles, machine guns, trench mortars, 37-mm. gun; rifle and hand grenades; while the equipment for the field artillery comprises horses; saddles; pistols; a battery of 3-inch guns; American, British, and French 75-mm. guns; 4.7-inch gun; 155-mm. howitzer and 155-mm. rifle; fire control and reconnaissance instruments; and caterpillar tractors, trucks, and other motor vehicles.

FIELD ARTILLERY COURSE

First Year (Freshmen).

1a. Materiel.—(3 hours per week.)

Guns—types, construction, mechanical principles, principles of design.

Field Artillery carriages—design, construction, tools, accessories, equipment, methods of carrying same; disassembling and assembling various parts of gun materiel—their care, operation, nomenclature, maintenance, lubrication, cleaning, sights, quadrants, fuse-setters, fire control instruments—principles of design, nomenclature, operation, adjustments, care; ammunition—powders, explosives, detonators, primers, projectiles, fuses: their description, manufacture, construction, care, and use; signal equipment—telephones, projectors, radio, etc.; engineer equipment.

3 units, autumn quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Gymnastics, equitation and horsemanship, polo.

1 unit, autumn quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Standing gun drill, dismounted instruction, school of the soldier, and battery dismounted. (This course fulfills the physical requirements for freshmen, autumn quarter.)

1 unit, autumn quarter
Total of 5 units for the quarter—4 required and 1 optional.

1d. Gunnery (Elementary.)—(3 hours per week.) Simple definitions, the military elements of the trajectory and their calculation, determination of firing data and its use by cannoneers; preliminary instruction in conduct of fire. Vols. I and III, F. A. D. R.

3 units, winter quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Continuation of course 1*b*, autumn quarter.

1 unit, winter quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) School of the cannoneer; gunner's instruction and examination. (This course fulfills the physical requirements for freshmen, winter quarter.)

1 unit, winter quarter
Total of 5 units for the quarter—4 required and 1 optional.

[NOTE: Students qualifying as expert first-class gunners, and second-class gunners are entitled to wear the qualification insignia for the remainder of the course.]

1e. Fundamentals of Military Science.—(3 hours per week.) Organization; administration; military hygiene; first aid and sanitation; customs of the service; military courtesy and discipline; morale; psychology of handling men and military leadership.

3 units, spring quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Continuation of course 1*b*, autumn quarter.

1 unit, spring quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Driving and draft; school of the driver; battery mounted; pistol practice; fire discipline. (This course fulfills the physical requirements for freshmen, spring quarter.)

1 unit, spring quarter
Total of 5 units for the quarter—4 required and 1 optional

SECOND YEAR (Sophomores)

2a. Field Artillery Motors and Motor Transportation.—(3 hours per week.) Gas engines, motor vehicles, artillery trucks and tractors; theory, mechanical design, construction, operation, nomenclature, care, maintenance, etc.

3 units, autumn quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Continuation of course 1*b*, autumn quarter.

1 unit, autumn quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Driving motor vehicles, drills and maneuvers with motorized equipment. (This course fulfills the physical requirements for sophomores, autumn quarter.)

1 unit, autumn quarter.
Total of 5 units for the quarter—4 required and 1 optional

2d. Hippology.—(3 hours per week.) The field artillery horse—care, conditioning, and training; care and management in the field; forage

and animal nutrition; types of artillery horses; breeds and blood lines; shoeing, grooming, stable management and exercise, care and maintenance of harness and horse equipment; anatomy, physiology, points, conformation and age of the horse; wounds, simple diseases and their treatment; veterinary medicines; Field Service Regulations and Part V, F. A. D. R.

1 unit, winter quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Continuation of course 1*b*, autumn quarter.

1 unit, winter quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Conduct of fire and application of the principles of fire with blackboard, terrain board, smoke-board, and subcaliber. (This course fulfills the physical requirements for sophomores, winter quarter.)

1 unit, winter quarter
Total of 5 units for the quarter—4 required and 1 optional

2e. Field Artillery Topography and Reconnaissance.—(3 hours per week.) Military maps and mapping—theory, practice, reading distances direction, scales, elevation, contours, and ground forms; road, position, panoramic and place sketches, road reports; battle maps and charts, grids and use of same in reading maps, firing, instruments, traverse, intersection, resection, orientation, determining exact location of directing piece, the orienting line, laying guns with a declinated instrument, laying guns on base line, visibility and defilade, minimum elevation and range, dead spaces.

Composition and use of battery, battalion and regimental special details, service of information.

3 units, spring quarter

1b. Physical Training and Equitation.—(3 hours per week.) Optional. Continuation of course 1*b*, winter quarter.

1 unit, spring quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Use of special details, scouting, carrying information, selection and occupation of positions; battery drills and maneuvers. (This course fulfills the physical requirements for sophomores, spring quarter.)

1 unit, spring quarter
Total of 5 units for the quarter—4 required and 1 optional

THIRD YEAR—(Juniors)

3a. Field Artillery Gunnery.—(3 hours per week.) Ballistics, pressures and velocities, the trajectory and its elements, trajectory problems, accuracy of fire, dispersion, theory of probability and law of errors,

probable error, application of the laws of dispersion, theoretical bases of principles of fire, range tables, corrections, shifts of fire, atmospheric effects, meteorological data, corrections of the moment, action and effect of projectiles and fuses.

3 units, autumn quarter

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, autumn quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Instruction of special details and examination for qualification as specialists.

1 unit, autumn quarter
Total of 5 units for the quarter

3d. Field Artillery.—(3 hours per week.) Firing instruction (Part IX, F. A. D. R.), preparation of fire, determination of firing data, topographical determination of firing data, principles of fire, conduct of fire, observation of fire, effect of fire, principles governing conduct of fire in open warfare and stabilized warfare and relative importance of each.

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, winter quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Conduct of fire with blackboard, terrain board, smoke-bomb, and subcaliber.

1 unit, winter quarter
Total of 5 units for the quarter.

3e. Field Artillery Tactics.—(3 hours per week.) Organization of the army; Field Artillery—organization, operations, employment, information, communications, artillery nets, ammunition supply; divisional, corps and army artillery and use of each; functions of the various calibers of field artillery and principles involving the type used; Field Engineering including types and construction of battery emplacements; camouflage and study of air photographs.

3 units, spring quarter

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, spring quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Battery drills and maneuvers. Laying out artillery net.

1 unit, spring quarter
Total of 5 units for the quarter.

FOURTH YEAR (Seniors)

4a. Military History and Policy of the United States.—(3 hours per week.) A critical study of our military policy and a military survey of the most important campaigns and battles of the United States (including the World War). Military operations and strategy.

3 units, autumn quarter

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, autumn quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Acting as assistant instructors for under-classes in standing gun drill, dismounted and mounted instruction.

1 unit, autumn quarter
Total of 5 units for the quarter.

4d. Military Law.—(3 hours per week.) History, authority, sources; procedure of courts-martial; Rules of Land Warfare; military government, armistices, conventions, treaties, riot duty.

3 units, winter quarter

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, winter quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Acting as assistant instructors in blackboard, terrain board, smoke-bomb, and subcaliber practice.

1 unit, winter quarter
Total of 5 units for the quarter.

4e. Minor Tactics and Map Maneuvers.—(3 hours per week.) Organization and tactics of the various arms and their combined tactics; staff—organization, function and duties; minor tactics and map maneuvers based on the course as given in the Army School of the Line; Field Service Regulations; Field Orders, Supply, etc.

3 units, spring quarter

1b. Physical Training and Equitation.—(3 hours per week.) Continuation of course 1*b*, autumn quarter.

1 unit, spring quarter

1c. Practical Field Artillery Instruction.—(3 hours per week.) Acting as battery and battalion officers in battery drills and maneuvers.

1 unit, spring quarter
Total of 5 units for the quarter.

TRAINING FOR INFANTRY UNITS OF THE SENIOR DIVISION

1. Military Art.—(Three hours a week.)

(*a*) Practical.

Physical drill (Manual of Physical Training—Koehler), Infantry drill (U. S. Infantry Drill Regulations), to include the School of the Soldier, Squad and Company, close and extended order. Preliminary instruction in sighting position and aiming drills, gallery practice, nomenclature, and care of rifle and equipment.

(*b*) Theoretical.

Theory of target practice, individual and collective (use of landscape targets made up by U. S. Military Disciplinary Barracks, Fort Leavenworth, Kansas); military organization (Tables of Organization); map reading; service of security; personal hygiene.

2. Military Art.—(Three hours a week.)

(*a*) Practical.

Physical drill (Manual of Physical Training—Koehler); Infantry drill (U. S. Infantry Drill Regulations), to include School of Battalion, special attention devoted to fire direction and control; ceremonies; manuals (Part V, Infantry Drill Regulations); bayonet combat; Intrenchments (584–595, Infantry Drill Regulations); first aid instruction; range and gallery practice.

(*b*) Theoretical.

Lectures, general military policy as shown by military history of United States and military obligations of citizenship; service of information; combat (to be illustrated by small tactical exercises); United States Infantry Drill Regulations, to include School of Company; camp sanitation for small commands.

3. Military Art.—(Three hours a week.)

(*a*) Practical.

The same as course 2 (*a*). Combat firing, if practicable, but collective firing should be attempted in indoor ranges by devices now in vogue at United States Disciplinary Barracks.

(*b*) Theoretical.

United States Infantry Drill Regulations, to include School of Battalion and Combat (350–622); Small-Arms Firing Regulations; lectures as in (*b*) course 2; map reading; camp sanitation and camping expedients.

4. Military Art.—(Three hours a week.)

(*a*) Practical.

The same as course 2 (*a*); signaling; semaphore and flag; first aid. Work with sand table by constructing to scale entrenchments, field works, obstacles, bridges, etc. Comparison of ground forms (constructed to scale) with terrain as represented on map; range practice.

(*b*) Theoretical.

Lectures, military history (recent); service of security and information (illustrated by small tactical problems in patroling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages, and camping expedients); marches and camps (Field Service Regulations and Infantry Drill Regulations).

5. Military Art.—(Five hours a week.)

(*a*) Practical.

Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching.

(*b*) Theoretical.

Minor tactics; field orders (studies in minor tactics, United States Army School of the Line); map maneuvers. Company administration, general principles (papers and returns). Military history.

6. Military Art.—(Five hours a week.)

(*a*) Practical.

Same as (*a*) course 5. Military sketching.

(*b*) Theoretical.

Minor tactics (continued); map maneuvers. Elements of international law. Property accountability; method of obtaining supplies and equipment (Army Regulations).

7. Military Art.—(Five hours a week.)

(*a*) Practical.

Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises scheduled for the unit or units. Military sketching.

(*b*) Theoretical.

Tactical problems, small forces, all arms combined; map maneuvers; court-martial proceedings (Manual for Court-martial).

International relations of America from discovery to present day; gradual growth of principles of international law embodied in American diplomacy, legislation, and treaties.

Lectures: Psychology of war and kindred subjects. General principles of strategy only, planned to show the intimate relationship between the statesman and the soldier (not to exceed 5 lectures).

8. Military Art.—(Five hours a week.)

(*a*) Practical.

Same as course 7 (*a*).

(*b*) Theoretical.

Tactical problems (continued); map maneuvers. Rifle in war. Lectures on military history and policy.

MINING AND METALLURGY

THEODORE JESSE HOOVER, JAMES MACDONALD HYDE, Professors.
WALDEMAR FENN DIETRICH, Associate Professor.
CARL HUGH BEAL, Assistant Professor.

The Department of Mining and Metallurgy is a graduate school, offering professional training in mining and metallurgy, and leading, on the completion of a two years' graduate course, to the degree of Engineer. Candidates for registration in the department will present as qualification for admission the degree of A. B. from the University, or its equivalent.

Students are advised to register for the pre-Mining course in the Department of Geology, in which department the courses are arranged, in coördination with the Department of Mining and Metallurgy, to lead up to the professional school. Students may, however, carry out their pre-Mining work in the Departments of Chemistry, Physics, Civil Engineering, or Mechanical Engineering, with the advice and consent of the faculties of those departments and the faculty of this department.

These pre-Mining courses are arranged to give prospective engineers a broad foundation of science, Language, English, Economics, and History.

LECTURE COURSES

ECONOMICS OF MINING

1. History of Mining and Metals.—A general survey of the metal supply of peoples and its effect on their progress in the arts, science

and culture; relation of mining and metallurgy to other industries, and to civilization. Open to students of all departments.
1 unit, winter quarter (HOOVER) T 9

2. Mine Valuation.—General considerations; sampling and measurement; widths and volumes; economic geology; analysis of costs; prices of metals; smelter contracts; amortization and depreciation; reserves; reports. Prerequisites: courses 5 and 12.
1 unit, autumn quarter (HOOVER) Th 9 and 1:05–3:05

3. Mine Organization.—The mining company; forms of business; frauds; selling mines; shares; balance sheet; profits; valuation; taxes; law. Prerequisites: courses 5 and 12.
1 unit, winter quarter (HOOVER) Th 9 and 1:05–3:05

4. Mine Management.—Organization and discipline of staff; technical committees, consulting engineers, managing directors, general managers; business principles and scientific management; vocational and technical training; personal qualities and efficiency; organization and discipline of labor; reports; supplies and material; costs and accounts. Prerequisites: courses 5 and 12.
1 unit, spring quarter (HOOVER) Th 9 and 1:05–3:05

MINING

5. Principles of Mining.—Covers the whole subject, gives a comprehensive view of the industry and serves as an outline for the orderly development of professional studies; prospecting; development; equipment, operation. Prerequisites: Geology 1, Mineralogy 1.
4 units, autumn and spring quarters (DIETRICH) MTWTh 11

6. Prospecting.—The prospector; geological aspects; placer prospecting, methods and costs; prospecting deposits in place, methods and costs; engineering features. Boring methods are covered in detail. Prerequisites: Mining 5; Civil Engineering 20; Geology 1, 4, 5; Economic Geology 2; Applied Mathematics 3.
1 unit, autumn quarter (DIETRICH) Lec. T 9; Lab. by arrangement

7. Development.—Development plans; methods and costs of shaft sinking, drifting, and raising; engineering records. Prerequisite: course 6.
3 units, autumn quarter (DIETRICH) TTh 8; Lab. by arrangement

8. Surface Equipment.—Factors governing choice of surface equipment. Power, compressors, explosives, drills, roads, railroads, tramways, materials for structures, bins. Prerequisites: Mining 7; Electrical Engineering 2, 3; Mechanical Engineering 32; Engineering 10, 12.
2 units, winter quarter (DIETRICH) TTh 8

9. Underground Equipment.—Factors governing choice of underground equipment. Power, hoisting, haulage, drainage, and pumping, ventilation, illumination. Prerequisite: course 8.

2 units, winter quarter (DIETRICH) MW 8

10. Surface Operations.—Factors governing choice of methods of mining: Placer, hydraulic, dredge, pit, quarry, costs. Prerequisite: course 7; Engineering 10, 12.

2 units, winter quarter (DIETRICH) TTh 11

11. Underground Operations.—Factors governing choice of method. Methods of timbering, filling, disposal of waste, stoping, costs, duty per man. Prerequisite: course 10.

3 units, spring quarter (DIETRICH) MWF 8

METALLURGY

12. Principles of Metallurgy.—Elementary discussion of broad principles of ore dressing and metallurgical operations. Preparatory to more detailed treatment in later courses; crushing, classification, concentration, hydrometallurgy, pyrometallurgy. Prerequisites: Chemistry 1*a*, *d*; Mineralogy, Economic Geology.

5 units, winter quarter (HYDE)

13. Crushing, Sizing, and Classification of Ores.—Mechanical preparation of ores for concentration or hydrometallurgical treatment. Principles, practice and cost of crushing, pulverizing, sizing and hydraulic classification of ores, transportation of pulp throughout the plant and thickening of pulps. Prerequisites: Metallurgy 12; Electrical Engineering 2, 3, or 1.

2 units, autumn quarter (HYDE)

14. Concentration Processes.—The principles, practice and cost of the concentration of metalliferous minerals from ores. Prerequisite: Metallurgy 13.

2 units, winter quarter (HYDE)

15. Hydrometallurgy, Gold and Silver.—The principles, practice and cost of treating ores by amalgamation, cyanidation, chlorination, lixiviation methods. Prerequisite: Metallurgy 14.

3 units, autumn quarter (HYDE)

16. Hydrometallurgy, Copper, Lead, and Zinc.—The principles, practice, and cost of recovering copper, lead and zinc from ores by hydrometallurgical and electro-metallurgical processes. Prerequisite: Metallurgy 14.

3 units, spring quarter (HYDE)

17. Pyrometallurgy, Copper, Lead, and Zinc.—The principles, practice and cost of recovering copper, lead, and zinc from ores by pyrometallurgical methods. Prerequisite: Metallurgy 14.

3 units, spring quarter (HOOVER, DIETRICH)

18. Pyrometallurgy, Iron and Steel.—The principles, practice and cost of producing iron and steel. Prerequisite: Metallurgy 12.

3 units, autumn quarter (DIETRICH) MWF 8

19. Pyrometallurgy, Nickel, Aluminium, Etc.—The principles, practice and cost of producing the minor metals. Prerequisite: Metallurgy 14.

3 units, winter quarter (DIETRICH)

20. Electrometallurgy.—The principles, practice, and costs of electric furnace work. Prerequisite: Metallurgy 13.

2 units (———)

21. Metallography.—The physical, chemical and mechanical properties of metals and alloys; microscopic work. Prerequisite: Metallurgy 12.

1 unit (———)

22. Pyrometry.—Determination of high temperatures and the calibration of pyrometrical instruments.

1 unit (———)

23a. Assaying.—Principles and methods for determining gold and silver in ores and metallurgical products. Prerequisites: Chemistry 1, 3, *a*, and Mineralogy 1. To accompany course 43.

1 unit, autumn and winter quarters (———)

23b. Metallurgical Analysis.—A course in methods for the rapid analysis of ores and metallurgical products. To accompany course 44.

1 unit (———)

PETROLEUM

24a, 24b. Principles of Petroleum Mining.—(Same as Economic Geology *3a* and *3b*.) Covers the whole subject of petroleum mining, gives the student a comprehensive view of the industry and serves as an outline for the orderly development of professional studies; development, equipment, production, utilization. Prerequisites: Geology 1; Palæontology 2, 3.

3 units, winter and spring quarters (BEAL) MWF 8

25. Petroleum Geology.—A course in the selection of prospective oil land, the making of geologic examinations and reports, and the application of geology in the development of oil field and the production of oil. Prerequisite: Mining 24.

3 units (BEAL) By arrangement

26. Oil Land Valuation.—A course dealing with the factors in oil land valuation, with actual problems. Prerequisite: Mining 24.
2 units (BEAL) By arrangement

27. Oil Field Development.—Dealing with the equipment and methods used in drilling oil wells. Prerequisite: Mining 24.
2 units (BEAL) By arrangement

28. Production of Oil.—Lectures on problems connected with the production of oil. Prerequisite: Mining 24.
2 units (BEAL) By arrangement

29. Storage and Transportation of Petroleum.—A course of lectures that include the methods of preventing loss during storage. Prerequisite: Mining 24.
2 units (BEAL) By arrangement

30. Petroleum Refining and Utilization.—Refined products and the utilization of products. Prerequisite: Mining 24.
2 units (BEAL) By arrangement

LABORATORY COURSES

ECONOMICS OF MINING

31. Organization.—Analysis of data and elaboration of schemes of operation.
2 units, autumn, winter, and spring quarters (HOOVER) By arrangement

MINING

32. Equipment Plans.—In connection with Mining 8 and 9. Drawing plans and specifications and preparing cost estimates for mine equipment.
2 or 3 units, winter and spring quarters (———) By arrangement

33. Mining Machinery.—In connection with Mining 8 and 9. Problems and experimental work on mining machinery.
2 units, winter and spring quarters (———) By arrangement

34. Mine Operations.—In connection with Mining 10 and 11. Choice and planning of mining methods to suit given conditions. Considerable experience in the field is a desirable prerequisite.
2 or 3 units, winter and spring quarters (———) By arrangement

35. Mining Research and Thesis.—Unsolved problems in mining practice.
4 units, autumn, winter, and spring quarters (HOOVER) By arrangement

METALLURGY

36. Metallurgical Machinery.—Design of an ore treatment plant. Prerequisites: courses 35, 37, or 38.
2 units (HYDE)

37. Ore Dressing.—Mechanical testing by laboratory methods to determine best method of ore dressing. Designed to accompany Metallurgy 14. Prerequisites: courses 12 and 13.
2 to 5 units, winter quarter (HYDE)

38. Hydrometallurgy.—Laboratory study of hydrometallurgical methods; to accompany courses 15 and 16.
2 to 5 units, autumn and spring quarters (HYDE)

39. Pyrometallurgy.—Calorimetry; pyrometry; refractory materials, formation of slags, mattes, and metals. To accompany courses 17, 18, 19.
2 units (———)

40. Electrometallurgy.—Treatment of zinc and copper ores in electric furnace, and a study of products. To follow or accompany course 20.
2 units (———)

41. Metallography.—Laboratory study of physical, chemical, and mechanical properties of metals and alloys; to accompany course 19.
2 units (———)

42. Metallurgical Research and Thesis.—Original study of some unsolved problem in metallurgical practice.
4 units (———)

43. Assaying.—Determination of gold and silver in ores and metallurgical products. Prerequisites: Chemistry 1, 3, *a*; Mineralogy 1; Metallurgy 3. To accompany course 23.
4 units, autumn and spring quarters (———)

44. Metallurgical Analysis.—Rapid methods for quantitative determination of constituents of ores and metallurgical products; to accompany Metallurgy 35, 36, 37. May be taken concurrently with course 35.
2 units (———)

PETROLEUM

45. Advanced Work in Petroleum Engineering.—Special work in courses 25 to 30, and required with courses 25 and 26.
2 to 5 units (BEAL) By arrangement

46. Petroleum Research and Thesis.—Unsolved problem in petroleum engineering.
5 units, autumn, winter, and spring quarters (HOOVER, BEAL) By arrangement

[47. Seminar in Origin and Accumulation of Oil.—(Same as Economic Geology 4.)
4 units, winter quarter (TOLMAN)]

PRE-MINING SCHEDULE

(The following schedule has been designed for Pre-Mining students, and they will be expected to follow the schedules except for very good reason to the contrary.)

Freshman Year

Autumn Quarter

Applied Mathematics 1a[1]	Elementary Analysis	MTWThF	9:00	5
Chemistry 1[2]	General Inorganic	MWF	8:00	3
Language[3]			11:00	3
Citizenship 1		MTWTh	10:00	4
				15

Winter Quarter

Applied Mathematics 1b	Elementary Analysis	MTWThF	9:00	5
Chemistry 3[4]	General Inorganic	MWF	8:00	3
Language[3]			11:00	3
Citizenship 2		MTWTh	10:00	4
				15

Spring Quarter

Applied Mathematics 2a	Calculus	MTWThF	9:00	5
Chemistry b[5]	General Inorganic	MTW	1:05	3
Language[3]			11:00	3
Citizenship 3			10:00	4
				15

Sophomore Year

Autumn Quarter

Applied Mathematics 2b	Calculus	MTWThF	10:00	5
Engineering 1[6]	Linear Drawing	S	9:00	1
English 2[7]	Composition	MWF	8:00	3
History		MWF	9:00	3
Physics 3a	Mechanics	TTh WThF	11:00 1:05	4
				16

Winter Quarter

Engineering 2[8]	Lettering	W	1:05	1
Engineering 3[6]	Descriptive Geometry	Th 8or10, MT	1:05	3
Geology-Paleontology 2[8]	Historical Geology	MWF	10:00	4
History		MWF	9:00	3
Physics 3b	Heat and Light	TTh11, ThF	1:05	5
				15

Spring Quarter

English 2	Composition	MWF	8:00	3
Geology-Paleontology 3[8]	Historical Geology	MWF	10:00	4
History		MWF	9:00	3
Physics 3c	Electricity	TTh11WThF	1:05	4–5
				14–15

Junior Year

Autumn Quarter

Geology 1	Dynamical Geology	MTWThF	9:00	5
Mineralogy 1	Common Rocks & Minerals	MW 10, MW	1:05	4
{ Mining and Metallurgy 18 { *or* Mechanical Engineering 21.	Pyromet., Iron & Steel Valuation of Fuels & Oils	MWF F 8; Lab.	8:00 1:05	3
Civil Engineering 20	Surveying	T 11; Lab	1:05	3
				15

Winter Quarter

Applied Mathematics 3a	Theoretical Mechanics	MTWThF	10:00	5
Economics 3	Accounting	MWF	9:00	3
Economics 10	Accountancy of Investment	MTWTh	11:00	4
Economic Geology 1	Non-Metals	MTWTh	8:00	4
				16

Spring Quarter

Applied Mathematics 3*b*	Theoretical Mechanics	MTWThF	10:00	5
Economic Geology 2	Ores	MTWTh	8:00	4
Mechanical Engineering 1	Forge	S 8; Lab.	1:05	4
Mechanical Engineering 12	Machine Drawing	Daily	1:05	2–3
				15–16

Summer Quarter

Geology 4	Field			8
Geology 5	Topographic			7
				15

SENIOR YEAR

Autumn Quarter

Engineering 10	Applied Mechanics	MWF MWF or MT	9:00 10–12 1:05	5
Chemistry 20, *d*	Qualitative Analysis		1:05	6
Mining and Metallurgy 5	Principles of Mining	MTWTh		4
				15

Winter Quarter

Chemistry 21, *f*	Quantitative Analysis		1:05	6
Economics 20	Corp. & Trust Finance	MTWTh	9:00	4
Mineralogy 2	Crystallography	WF 11	1:05	4
Mining and Metallurgy 1	History of Mining			1
				15

Spring Quarter

Chemistry *i*	Adv. Quant. Analysis		1:05	
or Engineering 12	Hydraulics	MWF 9, MT	1:05	3–5
or Geology Mineralogy 3	Systematic Mineralogy.	Th 10, TTh	1:05	
Mining and Metallurgy 12	Principles of Met			4
Mining and Metallurgy 24	Principles of Petroleum Min			4
Mining and Metallurgy 23, 43	Assaying		1:05	5
				16–18

[1] Students without adequate preparation will take Mathematics 1, or 2, or 3.
[2] Students without entrance Chemistry will take Chemistry 2, 1 unit.
[3] First-year language students add 2 units each quarter in first year.
[4] Add Chemistry *a* here or next quarter, if no entrance chemistry.
[5] If Chemistry *a* is taken here, take Chemistry *b* in autumn quarter, second year.
[6] Formative art. If group requirement is not fulfilled, course in Map Reading is suggested.
[7] Students who do not pass matriculation test will take English *a* in first year.
[8] Students without entrance credit in biological science will take one unit or more in some branch of the subject in addition to Paleontology 2 and 3.

MUSIC

WARREN D. ALLEN, Organist and Director of the University Choir.
ERNEST WHITNEY MARTIN, Director of the Military Band.

Choir 1.—The choir sings at the morning service each Sunday in Memorial Church, the music consisting of anthem, chant, and hymns. Continuous course until end of the year.

1 unit per quarter Rehearsal Th 7:35

Choir 2.—A larger separate choir formed for the performance of the great oratorios and other notable choral works.

1 unit Rehearsals as arranged

3. Orchestra.

1 unit per quarter (ALLEN)

4. Military Band.

1 unit per quarter (MARTIN)

PHILOSOPHY

HENRY WALDGRAVE STUART, Professor.
HAROLD CHAPMAN BROWN, Associate Professor.
EDWARD SCRIBNER AMES, Acting Associate Professor (summer quarter).

1. Elementary Logic.—The principles of Deductive and Inductive Logic, with special attention to the important types of fallacy.

5 units, autumn quarter (STUART) MTWThF 9

2a. Elementary Ethics.—A short survey of the morality of primitive peoples as compared with more developed forms of morality. The working principles of good conduct. The important historic theories as to the criterion for good conduct. First-year students may not enroll without the instructor's approval.

5 units, autumn quarter (STUART) MTWThF 11

2b. Ethical Principles and Practical Life.—A comparative study of selections from Aristotle, the Stoics, the New Testament Gospels, Mill, Matthew Arnold, Nietzsche, and Tolstoi. The contemporary historical conditions of various sorts which had influence in forming each type of ethical teaching and the practical tendencies of each type when applied in actual behavior. Prerequisite: course *2a*, or second-year standing.

5 units, summer quarter (STUART) MTWThF 11

3. History of Philosophy.—The development of philosophical theories from the early Greek period to the end of the eighteenth century, with a brief outline of philosophical movements in the nineteenth century. Attention will be given throughout to the relations of philosophy with social and political conditions and with science, literature, and religion. Prerequisite: second-year standing. Either quarter may be taken without the other.

4 units, autumn and winter quarters (BROWN) MTThF 10

4. Modern Scientific Conceptions of Nature and Mind.—A study of current views of cosmic structure and the place of man and his activities in nature, in the light of recent developments in physical chemistry, evolutionary biology and psychology. Prerequisite: second-year standing.

4 units (BROWN) [Not given in 1920–21]

5. Esthetics.—The origins and nature of art. Its significance for religion, morality, and social life. The rise of art forms. Contemporary theories of esthetics.

4 units, spring quarter (BROWN) MTThF 9

6. Philosophy of the Nineteenth Century.—The development of philosophical problems in France, Great Britain, and Germany will be studied in successive years in relation to the particular national genius and the conditions under which they arose. Prerequisite: course 3, or special permission of the instructor for suitably qualified third- or fourth-year students. The subject for 1921 will be French Philosophy.

3 units, spring quarter (BROWN) MTThF 10

7a. Advanced Logic.—Methods of investigation in use in the natural and social sciences, and the cardinal assumptions and principles on which these methods are based. Prerequisite: course 1 or an equivalent.

4 units, (STUART) [Not given in 1920–21]

7b. Introduction to Philosophy.—The aims and uses of philosophical study and the relation of philosophy to other subjects. How the problems of philosophy arise out of the ordinary junctures of life. A review of the more important answers which have been proposed for these problems. Open to students who have had one course in the department.

4 units, summer quarter (AMES) TWThF 8

8. The Social Order and the Individual.—Insect and animal "societies" and the types of human social organization. Social authority and individual initiative. The ethical basis of political obligation. The nature of democracy, aristocracy, and absolutism.

4 units, winter quarter (STUART) TWThF 11

9. Religion.—The psychological and social origins of religion. The relations of religion to science, to morality, and to philosophy. The distinctive content and characteristics of the great religions. Prerequisite: course 2 (*a* or *b*), 3 or 4, or an equivalent. Alternates with course 8. (No prerequisite summer quarter.)

4 units, spring quarter (STUART) [Not given in 1920–21]
4 units, summer quarter (AMES) TWThF 10

10. The Problems of Contemporary Philosophy.—A discussion of the main problems of General Philosophy as presented in recent literature. Pluralism and Monism; Empiricism, Absolutism, and Pragmatism; Realism and Idealism. Prerequisite: course *3*, 4, or *7b*.

4 units, winter quarter (BROWN) MTThF 10

11. Seminary.

Topics to be announced.

Autumn quarter (BROWN) By arrangement
Winter quarter (STUART) By arrangement

PHYSICAL EDUCATION

MEN

Alfred David Browne, Associate Professor of Physical Education and Director of the Department.
Harry Wilfred Maloney, Director of Minor Athletics.
Ernst Brandsten, Director of Aquatics.
Walter D. Powell, Director of Major Intercollegiate Athletics.
Wellford Duffy Seay, Associate Director of Major Intercollegiate Athletics.
Arthur Acker, Director of Intramural Athletics.

The organization in the Department and its courses have been planned primarily to give the student such supervision, instruction, and experiences as will enable him to secure and conserve his own health while in the University, and to provide him with every means possible for recreation. This involves two main lines of activity.

Hygiene

1. Class Instruction in Hygiene.—Two one-hour periods each week may be elected. Lectures comprise sources and modes of infection, industrial and occupational diseases, immunity, air, soils, water, adulteration of foods, milk, etc.

2 units, 1 quarter (Browne)

2. Individual Instruction in Hygiene.—Medical examinations are given for the purpose of finding defects whose proper treatment may add to the health and efficiency of the students.

Physical Training

Attendance at three one-hour periods each week is required of all freshmen and sophomores. Students satisfying the requirements of the department will be credited with six units for graduation. Seniors and juniors who have no physical training deficiency may qualify for unit credits by registering for work in the department.

Instruction is given in the following physical training activities: Soccer, rugby, and American football, basketball, baseball, track and field athletics, crew, tennis, boxing, wrestling, gymnastics, handball, fencing, swimming, and water polo.

Teachers' Courses in Physical Education.—(Special pamphlet will be mailed upon request.)

PHYSICAL EDUCATION AND PERSONAL HYGIENE

WOMEN

HELEN MASTERS BUNTING, Assistant Professor, Director of the Department.
†CLELIA DUEL MOSHER, Assistant Professor, Medical Adviser.
ETHEL D. OWEN, Acting Medical Adviser, 1919–20.
YOLANDA SHAW ALLEN, GRETA JOHANNSEN BRANDSTEN, LOIS MARJORIE KENDALL, Instructors.

The aim of Roble Gymnasium, as a laboratory of personal hygiene, is to improve the standard of health of the women and to increase their mental and physical efficiency; to foster a spirit of democracy and sportsmanship; to encourage the habit of exercise, and to stimulate a widespread interest in physical activity of all kinds.

Physical training is required of all undergraduate women during their first six quarters in the University. In general the arrangement will be as follows: gymnastics, two quarters; dancing, one quarter; swimming, one quarter; athletics, one quarter; choice of any course offered, last quarter.

One unit of university credit per quarter will be given for three hours per week of satisfactory work in a regular class, whether elective or required.

1. Physical Training.

Gymnastics.

a. Elementary Swedish Gymnastics (3 hours). Required of freshmen.

1 unit per quarter

b. Advanced Swedish Gymnastics (3 hours). Required of sophomores, elective for juniors and seniors.

1 unit per quarter

c. Corrective Swedish Gymnastics (3 hours). Required of freshmen and sophomores whose posture requires special correction; elective for juniors and seniors. Open only on consultation.

1 unit per quarter

d. Restricted Swedish Gymnastics (3 hours). Required of freshmen and sophomores whose physical condition is such that full work would not be advisable; elective for juniors and seniors. Open only on consultation.

1 unit per quarter

† Absent on leave, 1919–20.

Athletics. Archery, Baseball, Basketball, Fencing, Hockey, or Tennis. One quarter required in freshman or sophomore year; elective for juniors and seniors.

1 unit per quarter

Dancing. a. Folk. *b.* Aesthetic. *c.* Interpretative and natural. One quarter required in freshman or sophomore year; elective for juniors and seniors.

1 unit per quarter

Swimming.

a. Elementary.

b. Intermediate. Requirement, 75 ft. side underarm stroke.

c. Advanced. Requirement, 75 ft. crawl or trudgeon stroke.

d. Diving. Requirement, Straight dive from three-foot board.

One quarter required in freshman or sophomore year; elective for juniors and seniors.

1 unit per quarter

2. Personal Hygiene.—Three lectures and demonstrations per week. Open to all women students.

3 units, winter and *spring quarters (Mosher) MWF

3. Professional Course.—A professional course for training teachers of physical education is in the process of preparation. For further information address Roble Gymnasium.

Regulations and Requirements

Costume.—Black bloomers and plain white long-sleeved middy blouse are required for all classes other than swimming. Regulation "ground-gripper" gymnasium shoes are required for gymnastic and outdoor classes. Ballet slippers are required for dancing classes. Swimming suits are furnished by the University, but each student provides her own swimming cap and towel tickets. All outfits may be purchased at Roble Gymnasium. It is urged that students avail themselves of this opportunity, as outfits not fulfilling requirements will be rejected.

Tennis.—The student is required to furnish her own racket and balls.

Archery and Fencing.—A deposit of $2 is required of those taking archery or fencing.

Removal of Property.—All suits, shoes, rackets, or personal property not claimed within one week after the close of any quarter will be collected and disposed of.

Fees.—A fee of $1 per day will be imposed for needless late registration in required classes. A special fee of $5 is required of graduate students taking work in physical training.

PHYSICS

DAVID LOCKE WEBSTER, Professor.
FREDERICK JOHN ROGERS, Associate Professor.
JOSEPH GRANT BROWN, ELMER REGINALD DREW, PERLEY ASON ROSS, Assistant Professors.
GEORGE RUSSELL HARRISON, FRANK CLARK HOYT, Instructors.

1. General Physics.—This course is intended primarily for pre-medical and other non-technical students, and requires no mathematics beyond elementary algebra and geometry. Open to all students except those in physics and enginering, but 1*c* may be taken by students who have completed 2*c* or 3*c*.

These courses do not constitute an approved preparation for advanced courses in Physics, but may be accepted when completed with a grade above the average.

1a. Mechanics and Heat.—Forces and their effects, in simple structures at rest and on bodies in motion, including the gyroscope. Simple machines. The development of the exact statements of the laws of mechanics from the conceptions of ordinary experience. Energy as a measured quantity.

Heat phenomena, largely from the viewpoint of the transformations of energy and its conservation.

Three lectures and one or two laboratory periods per week. (The 2-unit laboratory sections are primarily for pre-medical and chemistry students.)

4 or 5 units, autumn quarter (WEBSTER, DREW) Lec. MWF 8, 9; Lab. Sec. I MT 1:05–4:05; Sec. II, TTh 8–12; Sec. III, Th 1:05–4:05; Sec. IV, F 1:05–4:05

1b. Electricity and Light.—Direct current phenomena, and their relation to electrostatics and to the theory of electrons. Electro-magnetic induction, the direct current dynamo and motor, and simple alternating current phenomena.

How we see objects. Mirrors, lenses, microscopes, and telescopes as aids to vision. Prerequisite: 1*a*, or the equivalent.

Winter quarter, with the same schedule as in 1*a*.

1c. Modern Physics.—The aims and methods of modern physics. Recent applications of electronic and molecular effects. The present status of the problem of the structure of matter. Prerequisites: 1*a* and 1*b*, or the equivalent. Three lectures per week.

3 units, spring quarter (WEBSTER) Lec. MWF 8, 9

2-3. General Physics.—These courses are intended primarily for students in Engineering, Physics, and Mathematics, or others having an equivalent mathematical preparation. Entrance credit in Physics is a prerequisite, although students without such preparation may be admitted by special arrangement which, in course 2, will involve registration for an extra unit of recitation work.

Course 2 begins in the winter quarter, with three lectures and one or two laboratory periods weekly. Course 3 begins in the autumn quarter, with two lectures and two or three laboratory periods weekly. Any subdivision of one course may, if necessary, be substituted for the corresponding subdivision of the other.

Physics majors, and students who plan to teach Physics, should take course 3, with the full five units, on account of the greater emphasis which it places on laboratory work.

2a–3a. Mechanics.—Force, work, power, and energy, and their relations to velocity and acceleration. The C. G. S. mechanical units. Oscillations and wave-motion. Friction, elasticity, viscosity, surface tension, and fluid pressure.

(*2a*) 4 or 5 units, winter quarter (Ross)
Lec. MWF 11; Lab. (one or two periods) MTW 1:05–4:05
(*3a*) 4 or 5 units, autumn and *summer quarters (autumn, Harrison; summer, Brown) Lec. TTh 11; Lab. (two or three periods) WThF 1:05– 4:05

2b–3b. Heat and Light.—Thermometry, expansion, calorimetry, change of state and transfer of heat; reflection, refraction, and dispersion of light; microscopes and telescopes. Prerequisite: course *2a* or *3a*.

(*2b*) 4 or 5 units, spring quarter (Harrison)
Lec. MWF 11; Lab. (one or two periods) MTW 1:05–4:05
(*3b*) 4 or 5 units, winter quarter (Brown)
Lec TTh 11; Lab. (two or three periods) WThF 1:05–4:05

2c–3c. Electricity.—Electrostatic induction, electric and magnetic fields of force, electric and magnetic circuits. Electromagnetic induction, electric and magnetic energy transformations. The C. G. S. and practical units of electrical quantities. Prerequisite: course *2a* or *3a*.

(*2c*) 4 or 5 units, autumn quarter (Rogers)
Lec. MWF 11; Lab. (one or two periods) MTW 1:05–4:05
(*3c*) 4 or 5 units, spring quarter (Drew)
Lec. TTh 11; Lab. (two or three periods) WThF 1:05–4:05

2d. Electricity and Electrical Measurements.—Precise measurements of current, E. M. F., resistance, capacitance, inductance, and the magnetic properties of iron. Lectures on the above topics and also on topics omitted in the preceding course, such as: Alternating currents; induction coils and transformers; electric oscillations and electric waves; electric discharges, cathode rays, and X-rays.

(*2d*) 4 or 5 units, winter quarter (Rogers)
Lec. TTh 11; Lab. (two or three periods) MTThF 1:05–4:05

2c. Photometry and Illumination.—Photometers and illuminometers. Measurement of the light power and efficiency of incandescent and arc lights. Measurements of the distribution of illumination. Lectures and readings on the present state of the science and art of radiation and illumination.

(*2e*) 2 units, winter quarter (ROGERS) Lec. F 9; Lab. any afternoon

4. Sound.—A study of elastic waves in material media. Wave machines, ripple troughs, and lantern slides will be used for illustration. Propagation and characteristics of sound; resonance; interference; musical instruments and musical scales; production and properties of high frequency sound (supersonics). Two lectures and two or three laboratory periods per week. Prerequisite: course 1*a*, or *2a*, or *3a*.

4 or 5 units, summer quarter (BROWN) Lec. TTh 9; Lab. MTW 1:05–4:05

5. Light.—A study of refraction, interference, and polarization phenomena on the basis of ether waves. Two lectures and two or three laboratory periods per week. Prerequisite: course *2a*, or *3a*.

4 or 5 units, autumn quarter (BROWN) Lec. TTh 9; Lab. MTW 1:05–4:05

6. Optical Instruments.—Geometrical optics of the prism, the thick lens, and combinations of lenses as used in optical instruments. Theory of the diffraction grating and interferometer. Resolving power of instruments. Prerequisites: course 5 and trigonometry. Three lectures and one laboratory period per week.

4 units, winter quarter (DREW) Hours by arrangement

7. Physical Optics.—Lectures on spectroscopy, magneto-optics, refraction constants, optical activity, and fluorescence. Laboratory work with the spectrometer, spectroscope, and interferometer. Prerequisites: courses 5 and 6.

4 units, autumn quarter (Ross) Lec. TTh 11; Lab. ThF 1:05–4:05

8. Ions and Electrons.—Ionization and conductivity of electrolytes. Ionization and conductivity of gases. Electrons in vacuum tubes. Electron theory of metals. Electron theory of magnetism. X-rays and crystal structure. Prerequisites: courses *2c* and *2d* or their equivalent.

5 units, spring quarter (ROGERS) Lec. MTWThF 9

9. Principles of Radiotelegraphy.—Lectures on modern developments in wireless communication, with selected experiments on the design, manipulation, and control of transmitting and receiving apparatus. Open to students having credit in course *2d*, or may be taken concurrently with it. Two lectures and one laboratory period per week.

3 units, winter quarter (HARRISON)

10. Radioactive Transformations.—Lectures, lecture experiments, and a few laboratory experiments on radioactivity. Prerequisite: course 8 (Ions and Electrons), or may be taken concurrently with it.

2 units, spring quarter (Ross) Lec. TTh 11

11. Theoretical Mechanics.—Chiefly a problem course with the emphasis on dynamics rather than statics. Prerequisites: course 2, or 3, and calculus.

3 units, winter and spring quarters (Ross) Lec. MWF 9

12. Mechanical Measurements.—A course in exact measurements of mass, length, time, gravity, elasticity, surface tension, viscosity, etc. Three laboratory periods per week. Prerequisite: course *2a* or *3a*. Given in alternate years with course 4.

3 units, spring quarter (Brown) [Not given in 1920–21]

13. Properties of Matter.—Lectures and assigned reading with special emphasis upon cohesion phenomena such as surface tension, compressibility, vapor pressure, critical point, etc. Prerequisite: course 2 or 3.

2 units, winter quarter (Ross) Lec. TTh11

14. Thermodynamics.—Extended discussion of the second law of thermodynamics, and its application to physical and chemical transformations. Prerequisites: course 2, or 3, and calculus.

3 units, autumn quarter (Drew) Hours by arrangement

15. Oscillations and Waves.—The mathematical theory of mechanical and electrical oscillations of one and two degrees of freedom. Forced oscillations, damping, and resonance. Wave propagation, stationary waves, Fourier's theorem, and the analysis and synthesis of complex periodic motions. Prerequisite: course 11, or its equivalent.

5 units, autumn quarter (Rogers) MTWThF 9

16. Electrical Theory.—Mathematical theory of electric forces, fields, and potential. The Faraday-Maxwell theory of dielectric stresses. The circuital laws of electromagnetism. Electromagnetic oscillations and waves. Poynting's theorem and the pressure of radiation. Prerequisites: courses *2d*, 11, and 15, or their equivalents.

5 units, winter quarter (Rogers) MTWThF 9

17. The Kinetic Theory of Gases.—The properties of gases deduced from the mechanics of molecules. Maxwell's law of the distribution of velocities. The law of the equipartition of energy. Application of the kinetic theory to the Brownian movement and the electron theory of metals. Prerequisite: course 11.

3 units, spring quarter (Rogers) By arrangement

18. Radiation and the Quantum Theory.—The deductions from thermodynamics as applied to radiation. Planck's theory and the applications of his quantum hypothesis to specific heats, photoelectricity, and radiation arising from electron impacts.

3 units, autumn and winter quarters (Webster)

19. Teacher's Course in Physics.—The development of the scientific method of teaching physics and practice in outlining courses for use in the high school. Two lectures and one laboratory period per week. Prerequisite: course 3 or its equivalent.

3 units, summer quarter (BROWN) By arrangement

20. Literature of Physics.—The early history of physics. Readings and frequent reports on the work of eminent physicists. This course may be taken for two or more quarters, but the work of the first quarter will be largely confined to the discoveries previous to the nineteenth century.

2 units, any quarter By arrangement

21. Investigation and Research.—This course includes, in addition to work on original problems both experimental and theoretical, any preparation for such work which is not properly included under the preceding courses.

5 units, any quarter (MEMBERS OF THE DEPARTMENT) By arrangement

22. Journal Club.—Oral and written reports on the current literature of physics by the department faculty and graduate students.

Autumn, winter, and spring quarters F 4:15–6

For graduation in the department the minimum requirement is 60 units of Physics and Chemistry, of which at least 45 units must be Physics.

THE TEACHER'S RECOMMENDATION.—The minimum requirement for a minor is twenty-five units of Physics, which must include courses 3 and 19. For a major, twenty units of Physics, including course 4 or course 5, in addition to the requirements for a minor, are necessary.

LABORATORY FEES.—Courses with one laboratory period, $3 per quarter; two, $4 per quarter; three, $5 per quarter.

PHYSIOLOGY

ERNEST GALE MARTIN, Professor.

JAMES ROLLIN SLONAKER, FRANK WALTER WEYMOUTH, Assistant Professors.

JAMES PERCY BAUMBERGER, GEORGE DANIEL SHAFER, Instructors.

1. Elementary Physiology.—The structure and functions of the body with special reference to the mechanisms of external adaptation, namely, muscles, nerves, and sense organs. Designed, primarily, for students who are not looking forward to the study of Medicine, and adapted espe-

cially to the need of students who plan to take up the study of psychology. Intended to impart a general conception of the relationship of the human body to its environment. Textbook: The Human Body, Martin, Advanced Course, Tenth Edition. Open to upper division students without restriction, and to lower division students in their second year.

5 units, autumn quarter (SHAFER, MARTIN) Lec. MWF 10; Lab. MT 1:05–4:05

2. Elementary Physiology.—The structure and functions of the body with special reference to maintenance, growth, and energy liberation. In this course, special attention will be paid to circulation, digestion, excretion, and metabolism. Although designed to offer in connection with course 1 a survey of the field of human physiology, this course is planned so that it may be taken independently of course 1. Textbook: The Human Body, Martin, Advanced Course, Tenth Edition. Requirements for admission the same as for course 1.

5 units, winter quarter (SHAFER, MARTIN) Lec. MWF 11; Lab. MT 1:05–4:05

S. General Physiology.—This course is designed to give a general survey of the physiology of living things with special reference to marine animals and the application of the fundamental principles thus developed to the functions of other forms, including man. It is planned to accompany the elementary course in Zoology given at the Hopkins Marine Station, and to be so coördinated as to supplement the morphological conceptions developed in that course with the basic principles of physiology, thus furnishing to students a comprehensive survey of Biology. (For further details consult the announcement of the Hopkins Marine Station.) Textbook: The Human Body, Martin, advanced course, tenth edition. For regularly enrolled undergraduates the requirement will be concurrent registration in General Zoology; elementary chemistry and botany are highly desirable. To those enrolled only in the summer quarter the course is open with no other restriction than evidence of ability to take it with profit.

5 units, summer quarter, at Hopkins Marine Station (BAUMBERGER) MWF 1:30–4:30

3. Principles of Physiology.—An advanced study of the fundamental principles of physiology. The field is surveyed from the standpoint of the functioning of single cells and of multicellular organisms. An especial effort is made to familiarize the student with basic phenomena and their interpretation. The course serves primarily as a preparation for courses 4 and 5, but is designed to meet the needs of advanced students who desire a general survey of the field and are unable to devote the time required for taking courses 3, 4, and 5. Required of majors in the department. Prerequisites for majors: eighteen units of Biology, including Histology; Physics 1, or its equivalent; Chemistry up to and

including Physiological Chemistry. Advanced students of other departments presenting less than these prerequisites may be admitted on recommendation of their major departments provided that their previ ous training is of a character to enable them to take the course with profit; it is desirable that such training include Biology and Elementary Chemistry. Textbook: Howell's Physiology.

5 units, winter quarter (MARTIN, SLONAKER, BAUMBERGER) Lec. MWF 8; Lab. MT 1:05–4:05

4. Physiology of Maintenance.—The detailed application to man of the general principles developed in course 3, so far as they relate to bodily maintenance. The laboratory work will be based, as far as possible, on mammals, including the human body itself. Textbook: Howell's Physiology. Required of majors in the department. Prerequisite: course 3.

5 units, spring quarter (MARTIN, SLONAKER) Lec. MWF 8; Lab. MW 9–12

5. Physiology of the Sense Organs.—An experimental study of these organs. Required of majors in the department. Prerequisites as in course 3, with the addition of the anatomy of the sense organs (Anatomy 10); advanced students of other departments may be admitted on the terms stated under 3, provided they present at least 2 units of Anatomy 10 or register for an additional unit of work to be devoted to a study of the anatomy of the sense organs. Textbooks: Herrick's Introduction to Neurology; Howell's Physiology.

5 (or 6) units, winter quarter (WEYMOUTH) Lec. TThS 9; Lab. (W)ThF 1:05–4:05

6. Journal Club.—A study of physiological literature, with oral and written reports. Required during two quarters of majors in the department.

1 unit, autumn, winter, and spring quarters (DEPARTMENT FACULTY) By arrangement

7. Special Physiology.—An advanced course open to students who have had one of courses 3, 4, or 5. Designed to afford opportunity for the advanced study of selected subjects in Physiology. The work will be planned for the individual student.

1 to 5 units, any quarter (DEPARTMENT FACULTY) By arrangement

8. Research in Physiology.

(DEPARTMENT FACULTY) By arrangement

Students will be recommended for the A. B. degree by the Department of Physiology who have fulfilled the requirements for admission to the Stanford Medical School, have taken courses 3, 4, 5, and two units of course 6 within the department, or equivalent courses elsewhere, ten additional units either within the department, or in the departments of

Anatomy or Bacteriology, and lecture and laboratory courses in physiological chemistry to the amount required by the Stanford Medical School. Anatomy 1 (Histology) is a prerequisite, also, and cannot be counted toward the ten additional units mentioned above as optional from the Department of Anatomy.

The preliminary requirements of the Stanford Medical School are: Twelve quarter units of college biology (General Biology and Comparative Anatomy usually offered); general chemistry, qualitative and quantitative analysis, lecture course in organic chemistry (24 units of chemistry); thirteen quarter units of college physics; nine quarter units of college English; a reading knowledge of either French or German.

Students who have completed the work of the lower division will be admitted as majors in the department, but unless they have taken twenty-five or more units of science, including both general biology and general chemistry, they will probably find it impossible to satisfy the departmental requirements within the regularly allotted six quarters.

The Department requirement for students looking forward to Medicine is designed to enable them to cover the required pre-medical subjects and the work of the first year in the Medical Department of this University, or to fit them to undertake to advantage the work of other first-class medical schools.

The Teacher's Recommendation.—Programs are offered for students seeking the teacher's recommendation as follows: Teaching major: Elementary Chemistry, 9 units; Biology, 18 units, including either Comparative Anatomy, Vertebrate Embryology, or Histology; Physiology, 15 units (courses 3, 4, and 5).

Teaching minor: Elementary Chemistry, 9 units; General Biology, 5 units; Physiology, 10 units (courses 1 and 2).

POLITICAL SCIENCE

†Victor J. West, Edwin Angell Cottrell, Professors.
James Wilford Garner, Acting Professor (summer quarter).
Louise Overacker, Research Assistant.

Requirements for the A. B. degree in Political Science: Forty units of Political Science, for which certain courses in Law, Economics, History, and Philosophy may be substituted at the discretion of the department.

† Absent on leave, 1920–21.

The forty units, however, should include two seminar courses in Political Science and the course in Constitutional Law. It is the purpose of the department to arrange the remainder of the program of each of its major students to fit his particular aims.

Elementary and General Courses

A. American Government.—A brief survey of the organization and operation of national, state, and local government in the United States. Intended primarily for freshmen who have not had civics in high school, and open only to freshmen and sophomores.

3 units, winter quarter (Overacker) MWF 8

1. Elements of Political Science.—An introductory study of the origin and nature of the state, forms of government, political relationships, citizenship, political parties, and theories of state functions. A general course intended for freshmen and sophomores, but open to all students. (After 1920–21 it will not be open to seniors.) This course or its equivalent is prerequisite for all other courses offered by the department.

5 units, autumn and *spring quarters (West) TWThFS 8

2. State and Local Government.—Township, county, and state government in the United States, with special attention to California.

5 units, winter quarter (Cottrell) MTWThF 8

Intermediate Courses

[Not open to students who have less than 40 units of university credit.]

10. Comparative Federal Government.—An inquiry into the operation of the federal principle in the United States, Germany, Switzerland, Argentina, Canada, Australia, and South Africa. Concerned chiefly with the "division of powers" and the relationships between central and local governments.

4 units, summer quarter (West) TWThF 10

10a. European Governments.—The political systems of England, France, Germany, and Switzerland; constitutional beginnings; political organizations; methods of legislation and administration; constitutional guaranties for the protection of individual rights. Prerequisite: course 1, or its equivalent.

4 units, summer quarter (Garner) MTWTh 10

11. Parliamentary Government.—A study of those European governments of which the responsible ministry is the characteristic feature; especial attention to England and France. Emphasis on the relationships between the representative assembly and the executive.

4 units, spring quarter (Cottrell) TWThF 9

12. Elections.—The organization of the electorate for the performance of the functions of direction and control of governments; theories of voting; qualifications for voting; election methods—nominating practices, types of ballot, safeguards against fraud, etc.

3 units (WEST) [Not given in 1919–1920]

13. Legislatures and Legislation.—Composition, organization, and functions of representative assemblies; legislative procedure for control purposes and for law-making.

3 units, spring quarter (WEST) MWF 11

14. Administration.—An examination of the organization and activities of administrative departments and commissions of the federal, state, and municipal governments.

4 units, autumn quarter (COTTRELL) TWThF 9

ADVANCED COURSES

[Not open to students who have less than 80 units of university credit, except by special arrangement.]

20. History of Political Theory.—Development of political thinking from ancient times to the present: Classical period; Medieval period. Renaissance and Reformation; revolution and reaction; the analytical school; the historical school; recent tendencies.

4 units, summer quarter (GARNER) MTWTh 9

21. American Political Theories.—Development of political thinking in America from colonial times to the present day, including the theories of the Revolution, the Constitution, the Jeffersonian and Jacksonian democracies, the slavery controversy, "states' rights," and modern tendencies.

4 units [Not given in 1919–20]

22. Government in Its Relation to Industry.—A study of political problems as affected by the changes in business organization since the industrial revolution. The "laissez faire" versus the "general welfare" concept of government. Measures needed to make the general welfare concept effective.

4 units (COTTRELL) [Not given in 1919–20]

23. Political Parties.—Development of nominating machinery and campaign methods in the United States; party organization; party activities; reform movements; the true functions of parties; the party systems of the various countries compared.

4 units, summer quarter (WEST) TWThF 8

24. Administration of Justice.—The principles and methods of administrative and judicial organization and procedure for the enforce-

ment of law—the settlement of controversies and the conviction and punishment for violation of law.

4 units (———) [Not given in 1919–20]

25. Problems of Municipal Administration.—A detailed study of the organization, functions, methods, policies, and problems of municipal departments.

4 units, spring quarter (Cottrell) TWThF 10

26. Methods of Governmental Research.—The purpose of this course is the direction and training of students in methods of collecting and presenting data in governmental and other public fields.

4 units, autumn quarter (Cottrell) TWThF 10

30. Seminar in Politics.—Topic for 1919–20. Current political philosophy.

3 units, autumn quarter (West) T 3:30

31. Seminar in Government.—Topic for 1919–20: Community surveys.

3 units, winter quarter (Cottrell) By arrangement

The attention of students interested in political science is called to the following courses offered by other departments:

Public Finance. (Economics 21.)
Tropical Colonization in the Far East. (History 90.)
Governments of the Far East. (History 92.)
Constitutional Law. (Law 10 and 11.)
Administrative Law and Public Officers. (Law 12.)
Municipal Corporations. (Law 13.)
Public International Law. (Law 14.)
Social Order and the Individual. (Philosophy 8.)
Social Psychology. (Psychology 9.)

PSYCHOLOGY

Frank Angell, Professor.
John Edgar Coover, Assistant Professor, and Research Fellow in Psychic Phenomena.
Gardner Cheney Basset, Assistant Professor.
Gertrude May Trace, Instructor.

1. General Psychology.—Lectures and exercises. Not open to first-year students except by permission. Titchener's Textbook of Psychology is used as a book of reference.

3 units, autumn and winter quarters (Angell) MWF 11

2. Experimental Psychology.—The experimental method in psychology. Sensation, perception, attention, affection, suggestion, and other complex mental processes will receive careful study through typical experiments. Prerequisite: credit for or enrollment in course 1. (One, two, or three quarters.)

3 units, autumn, winter, and spring quarters (TRACE) MTW 1:05–4:05

3. Mental Hygiene.—Some of the practical considerations of psychology, their economic use in study and thought, and their application to every-day life. The utilization of psychological principles that make for mental efficiency and health. Especially adapted to freshmen. No prerequisite.

3 units, autumn quarter (BASSET) MWF 9

4. History of Psychical Research.—Lecture course. A canvass of opinion on psychic phenomena is made from the daily press, from the popular magazines, and from professional literature; a detailed study of the more important investigations by psychical researchers is made; canons of evidence and of experimental method are adduced and the present status of the various psychical phenomena is defined. The psychology of testimony, and the nature of scientific proof are considered in connection with the cases of research chosen for study. Assigned reading, class reports.

5 units, spring quarter (COOVER) [Not given in 1921–22]

5. Psychology of Personality.—The normal and abnormal psychology of the emotions, thought processes, and will. The individual viewed in his social relations. A consideration of mental arrest, deterioration, and deviation as shown in feeblemindedness, insanities, and the psychoses from the standpoint of manifestations and etiology. Prerequisite: Psychology 1.

3 units, winter and spring quarters (BASSET) MWF 9

6. Experimental Psychology.—A course designed for prospective teachers. It deals especially with the learning processes, both simple and complex. Prerequisite: course 1, or equivalent.

3 units, autumn and winter quarters (TRACE) ThF 1:05–4:05

6a. Experimental Psychology.—A continuation of course 6, but ranging over a wider field. Special studies arranged to meet the needs of individual students.

3 units, spring quarter (TRACE) By arrangement

7. Statistical Methods.—A demonstration and working course in statistical methods; theory discussed in connection with practice; the determination and evaluation of measures of central tendency, dispersion, precision, reliability, differences between means and between distribu-

tions; seriation and plotting, curve-fitting; correlation. Students provide Davenport's "Statistical Methods" and a polyphase slide-rule; calculating machines and mathematical tables available. Some knowledge of algebra a prerequisite.

5 units, autumn quarter (COOVER) MTWThF 10

8. Psychophysical Methods.—A seminar course. Brief review of the development of psychophysical methods; of the recognized sources of error in psychological experiment and means of eliminating or measuring them. Application of standard Phi Gamma methods, using Urban's tables, to typical data, usually obtained by the student in his current laboratory work. Discussion of the "psychometric function." Titchener's Quantitative Manual and the professional journals are used for reference. Statistical Methods a prerequisite.

2 units, winter quarter (COOVER) TTh 10

9. Social Psychology.—Theories of social consciousness and the so-called collective mind; an analysis of perceptual, ideational, instinctive, and emotional factors in social consciousness; suggestion and mob mind; brief consideration of institutional and community life. Psychology 1 is prerequisite.

2 units, winter quarter (TRACE) TTh 11

10. Abnormal Psychology (Clinical).—Types of social misfits as they appear in the schools, at the Juvenile Court, and at the County Health Center. An opportunity is presented to assist in the examination and the accumulation of social data and etiological factors, and to observe the treatment and disposition of cases.

(BASSET) By arrangement

11. Advanced Laboratory Psychology.

3 units, autumn, winter, and spring quarters (ANGELL) By arrangement

12. Psychology of Evidence.—Presupposes or accompanies courses 2 and 11, or their equivalent.

3 units, spring quarter (ANGELL) MWF 11

13. Memory, Imagination, and Thought.—A study of memory and learning; methods and results of experimental investigations and the main theories involved. Prerequisite: Psychology 1 or equivalent.

2 units, spring quarter (TRACE) TTh 11

14. Mind and Body.—A seminar course. The problem of the mind-body relationship is first given a brief historical consideration. The psychological postulate of "psychophysical parallelism" is critically inspected. The pertinent data of psychology, patho-psychology, and medical practice with mental disorders (including the aphasias) are collected and studied. The phenomena of the dissociation of personality

and of hypnotism are reviewed; and Freudian psychoanalysis is briefly but critically examined from the standpoint of physiological psychology.
5 units, spring quarter (Coover) [Not given in 1920–21]

15. Current Psychological Literature.
2 units, autumn, winter, and spring quarters (Angell) Th 2

16. Psychical Research.—A research course offering opportunity to attack systematically any problem in the field for which the equipment is adequate.
Autumn, winter, and spring quarters (Coover) By arrangement

17. Research.
3 or 4 quarters (Angell, Coover, Basset) By arrangement

ROMANIC LANGUAGES

Oliver Martin Johnston, Professor.
Pierre Joseph Frein, Acting Professor (summer quarter).
Clifford Gilmore Allen, Aurelio Macedonio Espinosa, Associate Professors.
Stanley Astredo Smith, Alfred Coester, Assistant Professors.
Felipe Morales de Setién, Acting Assistant Professor (summer quarter).
Louis Peter de Vries, John Armstrong Sellards, Instructors.
Otto Carl Gebert, Ethel Lee, Helene Marie Hall, Grace Elizabeth Jones, Ivan Rush Messenger, Ida Stauf, John Parsons Weller, Elizabeth Dana Woodbridge, Marion Albert Zeitlin, Dorothy Leeds Walsh, Assistants in Instruction.

The undergraduate courses in the Romanic Languages are planned so as to give students an intimate acquaintance with the modern forms of the languages spoken in the principal neo-latin countries. To this end systematic attention is paid to pronunciation, reading, syntax, and conversation. In the higher courses special emphasis is laid on the study of literature. In order to give students an opportunity to become familiar with the spoken idioms, the majority of the courses are conducted in the language which forms the object of study.

The department offers advanced courses leading to the degrees of Master of Arts and Doctor of Philosophy. The library contains adequate material for graduate courses in French and Spanish literature and philology. The Dante collection is also adequate for graduate work in this subject. The department also accepts candidates for certification as high-school teachers of French and Spanish in California and pro-

vides courses to meet the special needs of such candidates. Either French or Spanish may be selected as a major subject. In addition to the elementary course, which does not count as a part of the requirement, majors in French or Spanish must complete the following courses for the degree of Bachelor of Arts:

(1) Second-year course (15 units);

(2) Advanced Composition and Conversation (9 units);

(3) Courses in literature or philology (30 units).

Of the 30 units required in literature or philology, the student may select 10 units outside of the major subject.

The Teacher's Recommendation.—The requirements for the teacher's recommendation are the same as for the Bachelor's degree with the exception of the fact that the 30 units under (3) must include the following courses:

A56 and A57 (or their equivalent), and A67 for majors in French.

B56 (or its equivalent), and B66 for majors in Spanish.

It is also recommended that course 106 in the Department of Germanic Languages be taken at the same time as A67 or B66. A reading knowledge of Latin and German is highly desirable. Recommendations will be given only on the vote of the department and will demand a degree of scholarship above the ordinary passing mark.

Some of the courses scheduled for the Summer Quarter extend through only one-half of the quarter. Others extend through both halves, but credit will be granted for work done in either half.

First-year French and Spanish are given by competent instructors under the supervision of the Department Faculty, and a fee of $7.50 per quarter is charged. University credit is given for this work.

Elementary and Intermediate Courses

A. FRENCH

A1. Elementary French.—Training in pronunciation by means of phonetic symbols, oral work, Ballard's Short Stories for Oral French. The elements of French grammar; the regular verb and the verbs *avoir* and *être;* Fraser and Squair, French Grammar, 20 lessons. Reading from Aldrich and Foster's French Reader.

5 units, autumn and *winter quarters (Gebert, Stauf, Weller, Woodbridge, Zeitlin) (autumn) MTWThF 8, 9, 10, 11; (winter) MTWThF 9

A2. Elementary French (continued).—Oral work continued. Study of the irregular verbs. Fraser and Squair, French grammar, to end of Part I. Reading from Aldrich and Foster's French Reader. Prerequisite: A1, or one year of high-school French.

5 units, winter and *spring quarters (Weller, Zeitlin, Stauf, Woodbridge) (winter) MTWThF 8, 9, 10, 11; (spring) MTWThF 9

A3. Elementary French (continued).—Thorough review of grammar. Oral work. Reading of the following texts: Labiche and Martin, Le Voyage de M. Perrichon; Halévy, L'Abbé Constantin. Prerequisite: A2 or equivalent.

5 units, spring quarter (STAUF, WELLER, WOODBRIDGE, ZEITLIN) MTWThF 8, 9, 10, 11

A21. Second-Year French.—Grammatical review. Composition from François, Introductory French Prose Composition and Alternate Exercises. Reading in class of Daudet, Tartarin de Tarascon; Victor Hugo, Ruy Blas. Outside reading of simple texts with written reports in French. Course conducted as far as possible in French. Prerequisite: A3, or two years of high-school French.

5 units, autumn and *summer quarters (autumn, STAUF, DE VRIES) MTWThF 9, 10; (summer, SELLARDS) MTWThF 9

A22. Second-Year French (continued).—Grammar and composition: same texts as in A21. Class reading: Balzac, Eugénie Grandet; Sardou, Les Femmes Fortes. Outside reading with written reports in French. Conducted as far as possible in French. Prerequisite: A21, or three years of high-school French.

5 units, winter quarter (SELLARDS, DE VRIES, STAUF) MTWThF 9, 10

A23. Second-Year French (continued).—Grammar; same text as in A21 and A22. Composition: François, Advanced French Prose Composition. Class reading: Dow and Skinner, Quelques Contes des Romanciers Naturalistes; Augier, Le Fils de Giboyer. Outside reading with written reports in French. Conducted in French. Prerequisite: A23, or equivalent.

5 units, spring quarter (DE VRIES, SELLARDS, STAUF) MTWThF 9, 10

A24. French Pronunciation.—Training in French pronunciation by means of practical phonetics. This course is of special interest to prospective teachers. Prerequisite: A3, or the equivalent.

3 units, spring quarter (DE VRIES) MWF 11

A25. French Conversation. — Classroom conversation on various aspects of modern French life and on current events. For students registering for two units, reading in French newspapers and periodicals. Oral reports in French. Prerequisite: A3 or the equivalent. Students should consult the instructor before registering in this course.

1 or 2 units, winter and summer quarters (SELLARDS) (winter) MWF 8; (summer) MWF 9

A30. Directed Reading.

1 or 2 units, autumn quarter (JOHNSTON)

B. SPANISH

B1. Elementary Spanish.—The elements of grammar, composition and conversation. Texts for 1920–21: Espinosa and Allen, Beginning Spanish, lessons I–XXV; Espinosa, First Spanish Reader.

5 units, autumn and winter quarters (Lee, Jones, Gebert)
(autumn) MTWThF 8, 9, 10, 11; (winter) 9

B2. Elementary Spanish (continued).—Texts for 1920–21: Espinosa and Allen, Beginning Spanish, lessons XXVI–LI; Allen, Fábulas y Cuentos.

5 units, winter and spring quarters (Lee, Jones, Gebert, Messenger)
(winter) MTWThF 8, 9, 10, 11; (spring) 9

B3. Elementary Spanish (continued).—Texts for 1920–21: Espinosa and Allen, Beginning Spanish, lessons LII–LXVIII; Quinteros, La Muela del Rey Farfán; Blasco Ibáñez, La Batalla del Marne.

5 units, spring quarter (Lee, Jones, Hall, Messenger, Walsh)
MTWThF 8, 9, 10, 11

B21. Second-Year Spanish.—Review of grammar, with abundant practice in conversation and composition. Reading aloud in Spanish, with careful drill in pronunciation. Reading and interpretation of Spanish texts, with a minimum of translation. Conversation in Spanish based on the texts read. Bi-monthly tests in translation and written reproduction of Spanish texts or short stories. Conducted mainly in Spanish.

Composition and conversation (MWF). Texts: Espinosa-Allen, Elementary Spanish Grammar, lessons XVI–XLIX.

Reading, pronunciation, and conversation (TTh). Texts: Benavente, El Príncipe que todo lo aprendió en los Libros; Palacio Valdés, La Hermana San Sulpicio.

5 units, autumn and *summer quarters (Allen, Espinosa, Coester)
(autumn) MTWThF 9, 11; (summer) MTWThF 8

B22. Second-Year Spanish (continued).—Composition and conversation (MWF). Texts: Espinosa, Spanish Composition and Conversation, Part I. For grammar review and reference, Espinosa-Allen, Elementary Spanish Grammar. Original exercises in Spanish composition. Final examinations on all regular and irregular verbs and the use of the subjunctive.

Reading, pronunciation, and conversation (TTh). Texts: Martínez Sierra, Teatro de Ensueño; Blasco Ibáñez, La Barraca.

5 units, winter quarter (Allen, Coester) MTWThF 9, 11

B23. Second-Year Spanish (continued).—Composition and conversation (MWF). Oral drill in conversation and the mastery of a correct pronunciation. Short stories, and original compositions. Advanced Spanish grammar. Text: Espinosa, Spanish Composition and Conversation, Part II.

Reading and interpretation of Spanish texts (TTh). Texts: Martínez Sierra, Canción de Cuna; Coester, Cuentos de la América Española.
5 units, spring quarter (GEBERT, COESTER) MTWThF 9, 11

B24. Spanish Pronunciation.—Lectures and practical exercises in the elements of Spanish pronunciation. Open to all. This course should be taken by Spanish majors in the first year.
2 units, winter quarter (ESPINOSA) TTh 9

B30. Directed Reading.
Autumn and winter quarters (ALLEN, ESPINOSA) MWF 11

C. ITALIAN

C1. Elementary Italian.—Phelps, An Italian Grammar. Goggio, Due Commedie Moderne.
5 units, autumn quarter (SMITH) MTWThF 11

C2. Elementary Italian (continued).—Phelps, An Italian Grammar. Conversation. Wilkins and Altrocchi, Italian Short Stories; Goldoni, La Locandiera. Prerequisite: C1, or equivalent.
5 units, winter quarter (SMITH) MTWThF 11

C3. Elementary Italian (continued).—Review of Grammar. Composition and Conversation. Manzoni, I Promessi Sposi (edit. Geddes and Wilkins); Giacosa, Come le Foglie. Prerequisite: C2, or equivalent.
5 units, spring quarter (SMITH) MTWThF 11

C21. Second-Year Italian.—Review of grammar. Composition and conversation. Reading of selected prose and poetry of the nineteenth and twentieth centuries, with a minimum of translation and particular attention to pronunciation. Collateral reading and reports. Prerequisite: C3 or equivalent.
3 units, autumn quarter (SMITH) [Not given in 1919–20]

C22. Second-Year Italian (continued).—Prerequisite: C21, or equivalent.
3 units, winter quarter (SMITH) [Not given in 1919–20]

C23. Second-Year Italian (continued).—Prerequisite: C22, or equivalent.
3 units, spring quarter (———) [Not given in 1919–20]

D. PORTUGUESE

D1. Elementary Portuguese.—Branner, A Brief Grammar of the Portuguese Language; Maria de Andrade, Terceiro Livro de Leitura.
5 units, autumn quarter (SMITH) [Not given in 1919–20]

D2. Elementary Portuguese (continued).—Branner, A Brief Grammar of the Portuguese Language. Conversation based on A. de Carvalle, O Pequeno Portuguez. Reading from Almeida-Garrett, Viagens na minha terra. Prerequisite: D1, or equivalent.
5 units, winter quarter (SMITH) [Not given in 1919–20]

D3. Elementary Portuguese (continued).
5 units, spring quarter (SMITH) [Not given in 1919–20]

II. ADVANCED AND GRADUATE COURSES

A. FRENCH

A41. Third-Year French Composition and Conversation.—Vreeland and Koren, French Syntax and Composition. François, Advanced Prose Composition. Outside reading and written reports in French. Conducted in French. Prerequisite: A23, or four years of high school French.
3 units, autumn and *summer quarters (autumn, SMITH; summer, FREIN) MWF 10

A42. Third-Year French Composition (continued).—Prerequisite: A41 or equivalent.
3 units, winter quarter (SELLARDS) MWF 10

A43. Third-Year French Composition (continued).—Prerequisite: A42, or the equivalent.
3 units, spring quarter (SELLARDS) MWF 10

A44. French Classics.—Reading in class of masterpieces of French literature. Prerequisite: A23, or equivalent.
3 units, winter quarter (DE VRIES) MTWTh 9

A51. Fourth-Year French Composition.—Translation of connected English prose into French. Original composition. Dictation. Conducted in French. Prerequisite: A43.
3 units, winter quarter (SMITH) MWF 10

A52. Continuation of A51.—Prerequisite: A43, or the equivalent.
3 units, spring quarter (SMITH) MWF 10

A53. Continuation of A52.—Prerequisite: A43, or the equivalent.
3 units, spring quarter (SMITH) [Not given in 1919–20]

A54. Cours de Style.—Ouvert aux seuls étudiants possédant une connaissance parfaite des principes essentiels de la grammaire française, Thèmes, Compositions, françaises (narrations, descriptions, etc.).

Résumés de chefs d'œuvre de la littérature française avec commentaire grammatical, en français. Prerequisite: A53, or the equivalent.
2 units [Not given in 1919-20]

A55. History of French Civilization.—A brief survey of the history of French civilization from the Middle Ages to modern times; this course is intended to furnish a background to the study of French literature. Prerequisite: A3 or the equivalent.
5 units, spring quarter (DE VRIES) [Not given in 1919–20]

A56. Outline Course in the History of French Literature from the earliest times to the end of the seventeenth century.—Abry, Audic et Crouzet, Histoire illustrée de la littérature française, pp. 1–306. Vreeland and Michaud: Anthology of French Prose and Poetry. Outside reading. Conducted in French. Prerequisite: A23, or the equivalent.
3 units (SMITH) [Not given in 1919–20]

A57. Outline Course in the History of French Literature from the end of the seventeenth century to the present time. Abry, Audic et Crouzet, Histoire illustrée de la littérature française, pp. 307–648. Vreeland and Michaud: Anthology of French Prose and Poetry. Outside reading. Conducted in French. Prerequisite: A23, or the equivalent.
3 units, spring quarter (SMITH) MWF 10

A58. French Literature in the Seventeenth Century.—Lectures on the formation of the classic ideal in France and on the main movements, authors, and works of the classic age. Outside reading and reports. Conducted in French. Prerequisite: A23, or the equivalent.
3 units, autumn quarter (SMITH) MWF 9

A59. French Literature in the Eighteenth Century.—A study of the main ideas and tendencies of the period as illustrated by the lives and works of its most important authors. Outside reading and reports. Conducted in French. Prerequisite: A23, or the equivalent.
3 units, winter quarter (SMITH) MWF 9

A60. The Contemporary French Drama.—A study of the theater in France from 1900–1920. Lectures, readings, reports. Conducted entirely in French. Prerequisite: A23.
3 units, spring quarter (SELLARDS) [Not given in 1919–20]

A60a. The French Short Story.
3 units, summer quarter (FREIN) MWF 9

A61. The Contemporary French Novel.—Lectures in French on the novelists of today, with emphasis on the works of Anatole France, Paul Bourget, and Pierre Loti. Extensive reading and discussion in French of contemporary novels. Prerequisite: A23.
3 units, spring and summer quarters (SELLARDS) MWF 11

A61a. The French Drama in the Nineteenth Century.
3 units, summer quarter (FREIN) MWF 11

A62. The French Novel.—Lectures in English. Emphasis will be placed on the study of the realistic-naturalistic movement of the 19th century. Extensive reading outside of class and discussion of representative works. Prerequisite: A23.

5 units, autumn quarter (DE VRIES) MTWF 11

A63. The French Drama.—Lectures on the development of the French drama. Emphasis on the realistic-naturalistic tendencies of the nineteenth century. Extensive outside reading and discussion of plays of representative modern authors. Prerequisite: A23.

3 units, spring quarter (DE VRIES) MTWTh 9

A64. Literary Criticism.—Lectures in English on the history of literary criticism in France from the Renaissance to modern times. Emphasis is laid on the 19th century. Prerequisite: A23.

3 units, winter quarter (DE VRIES) MWF 11

A65. Renan, Taine, and Sainte-Beuve.—A study of French thought in the nineteenth century centering around the above authors. The more important works of Renan and Taine, and selections from Sainte-Beuve will be read by the class.

3 units (DE VRIES) [Not given in 1919–20]

A66. Problems of Teaching French.—Practice in the use of the phonetic method as a means of teaching French pronunciation, review of French grammar, lectures on methods of teaching French, pedagogical bibliography, and suggestions regarding available textbooks. Practice teaching.

3 units, summer quarter (JOHNSTON) MWF 2:05

A68. Introduction to the Study of Old French.—Reading and interpretation of old French texts selected from Bartsch-Wiese, Chrestomathie de L'Ancien Français, with a study of Old French Phonology and Morphology.

3 units, autumn quarter (JOHNSTON) [Not given in 1919-20]

A69. French Historical Grammar.—Lectures on Old French Phonology and Morphology.

3 units, spring quarter (JOHNSTON) [Not given in 1919–20]

A70. French Historical Syntax.—The most important phases of modern French syntax will be studied from a historical point of view. This course is intended primarily for teachers.

2 units (JOHNSTON) [Not given in 1919–20]

A71. Old French Literature.—French literature from the beginnings to the 15th century, with emphasis on the literary and social traits. Outside reading and reports.

3 units (JOHNSTON) [Not given in 1919–20]

A72. French Arthurian Romances.—Lectures on the romances of the Round Table, the legend of the Holy Grail, and the legend of Tristan and Iseut. Outside reading and reports.

2 units, summer quarter (JOHNSTON) TTh 2:05

A73. Seminary: Floire et Blancheflor.

3 units, autumn quarter (JOHNSTON) T 2–4

A74. French Seminary: Floire et Blancheflor.

3 units, winter quarter (JOHNSTON) T 2:05–4:05

B. SPANISH

B41. Advanced Spanish Composition and Conversation.—Review of grammar, with reading and interpretation of literary texts. Oral and written reproduction of short stories and literary material. Original exercises in composition. Prerequisites: courses B21, B22.

3 units, autumn and *summer quarters (autumn, ESPINOSA; summer, ALLEN) (autumn) MWF 9; (summer) MWF 10

B42. Advanced Spanish Composition and Conversation (continued).—Prerequisite: B41.

3 units, winter quarter (ESPINOSA) MWF 9

B43. Advanced Spanish Composition and Conversation (continued.)—Translation into Spanish of select English prose. Prerequisite: B42.

3 units, spring quarter (ESPINOSA) MWF 9

B44. Commercial Spanish.—Practice in letter writing. Study of commercial documents. Writing advertisements and circular letters. Carlos F. McHale, Commercial Spanish. Prerequisite: B23.

3 units, winter quarter (COESTER) MWF 11
1½ units, 1st half summer quarter (COESTER) MWF 10

B47. Fonética Española.

3 units, summer quarter (DE SETIÉN) MWF 1:05

B48. Argentine Literature.—The aim of this course is to acquaint the student with the history and mental characteristics of the Argentines through the medium of their own literary productions. Prerequisite: B23.

3 units, autumn quarter (COESTER) [Not given in 1919–20]

B49. Spanish Literature.—The modernista movement in America and Spain. Rubén Darío, Gutiérrez Nájera, Silva, Chocano, and their influence on Spanish lyric poets since 1898. Prerequisite: B41, or equivalent.

3 units, winter quarter (COESTER) [Not given in 1919–20]

B50. Spanish American Literature.—General outline. The writings of Spanish Americans will be studied from the point of view of the

nationality of the writers and as the product of differing political, social, and geographic conditions. Prerequisite: B23.

3 units, spring and summer quarters (COESTER) MWF 11

B51. Curso de composición y estilo.—En este curso se estudian algunas obras literarias en prosa para modelos de estilo. Composiciones originales cada semana. Gramática de referencia: Bello-Cuervo, Gramática de la Lengua Castellana. Prerequisites: B41, B42, B43.

3 units, winter quarter (ESPINOSA) MWF 11
3 units, summer quarter (DE SETIÉN) MWF 2:05

B52. Curso de composición y estilo (continuación).—Prerequisite: B51.

3 units, spring quarter (ESPINOSA) MWF 8

B53. Curso de composición y estilo (continuación).—Prerequisite: B52.

3 units (ESPINOSA) [Not given in 1919–20]

B55. Historia de la Civilización Española.

3 units, summer quarter (DE SETIÉN) MWF 3:05

B56. Spanish Literature.—Outline course. Fitz-Maurice Kelly: Historia de la literatura española. Lectures and recitations. Prerequisite: B58.

3 or 5 units, winter quarter (ALLEN) MWF 8

B58. Spanish Classics.—A study of the principal authors of the classical period. Representative texts will be read of Cervantes, Lope de Vega, Calderón, Alarcón, Tirso de Molina, as well as selections from Ford's A Spanish Anthology. Open to students who have completed courses B21, B22, B23, or their equivalents.

4 units, autumn and summer quarters (ALLEN) MTWTh 10

B59. Spanish Literature in the Eighteenth Century.

3 units, spring quarter (ALLEN) [Not given in 1919–20]

B60. Modern Spanish Novel.—A study of the modern Spanish novel and its relation to the development of the novel in France and other European countries. Lectures and collateral readings. Prerequisites: B21, B22, B23, or their equivalents.

3 units, autumn and summer quarters (ALLEN) MWF 8

B61. Teatro Español Contemporáneo.—(*a*) Breve resumen de la historia del teatro español en el siglo XIX: Rivas, Gutiérrez, Zorrilla, Bretón de los Herreros, Ayala, Echegaray. (*b*) Estudio de los dramáticos contemporáneos, con atención especial a Jacinto Benavente, Eduardo Marquina y Martínez Sierra. Prerequisites: B21, B22, B23, or their equivalents.

3 or 5 units, winter quarter (ESPINOSA) MWF 10

B62. Dramáticos Contemporáneos.—Galdós, Benavente, Marquina, Martínez Sierra, Valle-Inclán. Prerequisites: B21, B22, B23, or their equivalents.

2 units (ESPINOSA) [Not given in 1919–20]

B64. Early Spanish Lyric Poetry.—A study of the various schools of lyric poets, as the Galacian, the Italian, the National, etc. Prerequisite: B58.

3 units (ALLEN) [Not given in 1919–20]

B65: Modern Spanish Lyrics.—Prerequisites: B21, B22, B23, or their equivalents.

3 units (ALLEN) [Not given in 1919–20]

B66. Problems of Teaching Spanish.—A consideration of the important question of Spanish pronunciation, grammar, reading, and literary interpretations, together with a discussion of the general questions of methods of teaching as applied to the teaching of elementary and advanced Spanish. Pedagogical bibliography and school texts. Practice teaching.

2 units, spring quarter (ESPINOSA) TTh 8

B67. Introduction to the Study of Old Spanish.—Lectures on old Spanish Phonology and Morphology, with linguistic exercises based on El Cantar de mío Cid. Ford, Old Spanish Readings.

3 units, autumn quarter (ESPINOSA) MWF 11

B68. Spanish Historical Grammar.—Lectures and study of Old Spanish texts.

3 units (ESPINOSA) [Not given in 1919–20]

B71. Origins of Spanish Drama.—A history of the drama from the earliest times to its full development with Lope de Vega. Lectures and collateral reading.

3 units, autumn quarter (ALLEN) [Not given in 1919–20]

B72. Spanish Seminary.—Old Spanish Ballads. Lectures and investigations on special topics.

3 units, spring quarter (ESPINOSA) W 2:05–4:05

B73. Spanish Seminary.—Lope de Vega. Lectures and assigned topics.

3 units, winter quarter (ALLEN) W 2:05–4:05

B74. Old Spanish Literature.—Spanish literature from the earliest times to the beginning of the 15th century. Lectures, reading of texts, and assigned topics.

3 units, spring quarter (ALLEN) [Not given in 1919–20]

C. ITALIAN

C51. Dante and the Divine Comedy.—Reading and interpretation of the Divine Comedy. Lectures on Dante, the Divine Comedy, and the

principal problems of medieval life and thought reflected in the poem. Outside reading and reports. Open to juniors and seniors in all departments.

3 units, autumn quarter (Johnston) MWF 2:05

C52. Advanced Italian.—Dante, La Divina Commedia. Study and interpretation of the text; discussion of the literary problems of the poem.

4 units, autumn quarter (Johnston) MWF 2:05–3:05

C53. Advanced Italian (continued).

4 units, winter quarter (Johnston) MWF 2:05–3:05

E. PROVENÇAL

E51. Introduction to the Study of Old Provençal.—Reading of selected passages from Appel's Provenzalische Chrestomathie, with a study of Old Provençal Phonology and Morphology.

3 units (Johnston) [Not given in 1919–20]

F. GENERAL COURSES

F51. Romance Versification.—The fundamental principles of Romance verse structure, with particular attention to French and Spanish lectures and practical exercises.

3 units, winter quarter (Espinosa) [Not given in 1919–20]

F52. Phonetics.—[See course 131 in the Department of Germanic Languages.]

[F53. Latin Syntax.—See course 12 in the Department of Latin.]

Journal Club

The instructors in the department and the advanced students meet on the first Thursday of each month for the discussion of the periodicals and new books.

Th 2–3

SLAVIC

Henry Lanz, Assistant in Instruction.

Slavic Literature

(The following courses do not require a knowledge of any language other than English.)

C1. Slavic Literature.—It is the object of this course to give a brief account of the folklore and literature of Slavic nations such as Bohemia, Servia, Bulgaria, and Poland, in connection with their history and their religious development. Outside reading and reports.

2 units, four quarters (Lanz) TTh 9

C2. History of Russian Literature.—The development of literature in Russia since the early Biliny-period to the death of Gogol (1852). Special attention will be given throughout to the relations of Russian literature to social and political conditions, philosophy, and religion. Lectures and reading.

3 units, autumn and spring quarters (Lanz) MWF 11

C3. History of Russian Literature (continuation of C2).—The modern Russian literature, covering the works of Turgenev, Goncharov, Dostoievsky, Tolstoy, and others. Mutual dependence between Rusisan and West-European literatures will be particularly emphasized.

3 units, winter and summer quarters MWF 11

C4. Leo Tolstoy.—His life and work.

2 units, autumn and spring quarters (Lanz) TTh 11

C5. Theodore Dostoievsky.—His life and work.

2 units, winter and summer quarters TTh 11

Slavic Languages

A1. Elementary Russian.—It is the object of this course to put the students in possession of the elements of the Russian language. Beginning with a study of the alphabet, it covers the course in morphology, syntax, simple conversation, and reading of the easy Russian texts (short stories of Leo Tolstoy). Bondar, Simplified Russian Method.

4 units, autumn quarter (Lanz) MTThF 8

A2. Elementary Russian (continued).—The study of the aspects of the verbs and advanced practice in conversation and reading.

4 units, winter quarter (Lanz) MTThF 8

A3. Elementary Russian (continued).—Thorough review of grammar; reading and conversation (Bondar).

4 units, spring quarter (Lanz) MTThF 8

A4. Commercial Russian.—The object of this course is merely practical; it is intended to put the students in possession of the commercial vocabulary and make them able to transact business in Russian language. Special attention will be given to the composition of business letters. Prerequisites: Russian A1, A2, A3.

4 units, summer quarter (Lanz) MTThF 8

A5. Seminary Work.

(Lanz) By arrangement

A6. Russian Conversation.

By arrangement

A21. Second-Year Russian.—Reading of Pushkin and Turgenev. Practice in conversation and composition on the basis of the material read. Forbes, Russian Grammar.

3 units, autumn quarter (Lanz) MWF 9

A22. Second-Year Russian.—Chekhov, Stories.
3 units, winter quarter (Lanz) MWF 9

A23. Second-Year Russian.—Reading of modern prose and poetry.
3 units, spring quarter (Lanz) MWF 9

A31, 32, 33. Third-Year Russian.
By arrangement

ZOOLOGY

Charles Henry Gilbert, Harold Heath, George Clinton Price, Professors.
Walter Kenrick Fisher, John Otterbein Snyder, Associate Professors.
Edwin Chapin Starks, Assistant Professor.

(Courses 1 and 4 may be undertaken without previous preparation in Zoology.)

1. General Zoology.—A laboratory course involving the study of representatives of the principal groups of animals, accompanied by lectures on their structure and classification, and on the general laws of biology which they illustrate. The work given in the autumn quarter is planned especially for students majoring in biology and medicine.
5 units, autumn, *winter, *spring, and *summer quarters (summer quarter at Hopkins Marine Station, Pacific Grove) (Heath, Starks, Fisher) MTWThF 1:05–3:30

2. The Classification and Ecology of Marine Invertebrates.—The object of this course is to give the student the widest possible acquaintance with the animals which live along shore and in the plankton of Monterey Bay—their classification, associations, distribution, and habits.
5 units, summer quarter (Hopkins Marine Station, Pacific Grove) (Fisher) Lab. MTWThF

3. Limnology.—A study of the behavior, structure, and environment of the simpler fresh-water organisms.
2 units, spring and *summer quarters (Hopkins Marine Station, Pacific Grove) (Fisher) Lab. ThF

4. The Vertebrates.—A general course in the classification of vertebrate animals, with studies in their habits and the geographical distribution of species. The course is largely devoted to birds. It includes field excursions, and observations of live animals in the laboratory.
5 units, spring quarter (Snyder) MTWThF 1:05–3:45

5. The Invertebrates.—This course, following course 1, is designed to give the student a broader knowledge of the morphology and relationships of the more important invertebrate groups.
5 units, autumn quarter (Heath) MTWThF

6. Invertebrate Embryology.—A study of segmentation, the formation of the germ layers, and certain phases of the later development, including the significance of larval forms and the relationships of the principal phyla. Must be preceded by courses 1 and 5.

3 units, winter quarter (HEATH) MTW

7. Advanced Work on Invertebrates.—The original investigation of problems connected with anatomy and embryology of invertebrates.

3 to 5 units, autumn, winter, and spring quarters (HEATH) By arrangement

9. Research Work on Invertebrates.—Prosecution of special studies with reference to the classification, anatomy, and life history of invertebrates.

Autumn, winter, spring, and summer quarters (at Hopkins Marine Station, Pacific Grove) (FISHER) By arrangement

10. Advanced Vertebrates.—Advanced studies in systematic vertebrate zoology, including practice in museum methods, in field observations, and in the collection and preparation of specimens with data. To be preceded by course 4.

3 to 5 units, spring quarter (SNYDER) MTWThF

11. Comparative Anatomy of the Vertebrates.—A detailed examination of vertebrate morphology, including dissection of representatives of the several classes of vertebrates, with comparative studies in vertebrate osteology, the nervous and circulatory systems.

5 units, winter quarter (SNYDER); spring and summer quarters (STARKS) MTWThF 1:05–4:15

12. Mammalian Anatomy.—For students who have had course 11 or its equivalent.

3 to 5 units, autumn quarter (SNYDER) MTWThF 1:05–4:15

13. Vertebrate Embryology.—The development of the chick through the first three days of incubation, and the later stages in the development of the mammal.

5 units, winter and spring quarters (PRICE) MTWThF

14. Advanced Vertebrate Embryology.—Open to students who have had course 13, or its equivalent.

Autumn quarter (PRICE) Units and hours to be arranged

15. History of Zoology.—A course of lectures dealing with the great discoveries in the science of zoology, together with the lives of some of the more prominent zoologists. Open to students who have had 15 units of biological work. Two lectures weekly.

1 unit, autumn quarter (PRICE) Hours to be arranged

16. Primitive Chordates.—Amphioxus, the tunicates, and the lampreys. Open to students who have had courses 11 and 13.

5 units, autumn quarter (GILBERT) Forenoon hours, by arrangement

17. Fishes.—An examination of the larger groups of fishes and practical work in the discrimination of species. To be preceded by course 16.
5 units, winter quarter (GILBERT) Forenoon hours, by arrangement

18. Advanced Ichthyology.—Special problems in the morphology and classification of fishes will be set for advanced students prepared for such work.
2 to 5 units, autumn, winter, and spring quarters (GILBERT) By arrangement

19. Journal Club.—Open to seniors and graduate students.
4 units, spring quarter (GILBERT) By arrangement

Major students must before graduation complete courses 1, 2, 4, 5, 6, 11, 13, 16, 17, and 19, one advanced course in Zoology, and course 1 in Botany. Substitution of other courses is permitted in special cases.

Work for graduate and special students will be laid out in accordance with their individual needs and preferences.

Students who look forward to the study of medicine may take Zoology for their major subject and receive the A. B. degree at the close of a four years' course which shall also contain the first year in medicine. The following courses in Zoology will be required of such students: Zoology 1, 5, units; Invertebrate Morphology, 5 units; Comparative Anatomy of the Vertebrates, 5 units; Vertebrate Embryology, 5 units; Journal Club, 4 units.

THE TEACHER'S RECOMMENDATION.—The department recommendation for the High School Teacher's Certificate in Zoology requires the completion of the following courses: Zoology as a major: Zoology 1 (General), 5 units; 2 or 5 (Invertebrates), 5 units; 4 (Vertebrates), 5 units; 6 (Invertebrate Embryology), 3 units; 11 (Comparative Anatomy of Vertebrates), 5 units; 13 (Vertebrate Embryology), 5 units; Entomology 3 (Insect Ecology), 5 units. Total, 38 units.

Zoology as a minor: Zoology 1, 2 or 4, 5, 11; Entomology 3. Total, 25 units.

THE ZOOLOGICAL COLLECTIONS

The ZOOLOGICAL MUSEUM contains a very full representation of the fishes of North America, and includes among others a valuable series of the deep-water fishes of the Pacific, and large collections from the West Indies, the Hawaiian Islands, Bering Sea, Japan, the coasts of Mexico and Central America and the Galapagos Islands. The museum contains also a large representation of the reptiles, batrachians, birds and mammals of California and adjoining States. The collection of marine invertebrates is rich in Pacific echinoderms and crustacea, and contains a good working nucleus in the other principal groups. The series of deep-sea forms is especially valuable.

LABORATORY FEES.—$1 each quarter per unit of course.

LECTURES AND DEBATES

Raymond Fred West Memorial Lectures

In 1910 Mr. and Mrs. Fred West, of Seattle, Washington, presented to the University, in memory of their son, Raymond Fred West, a student of the University who died before the completion of his college course, the sum of ten thousand dollars, to be held as a fund in perpetual trust, for the establishment of a lectureship on a plan similar to the Dudleian Lectures at Harvard University.

"It is our wish that such lectures shall not form part of the usual college or university course, nor shall they be delivered by any professor or instructor in active service in the institution. Such lecturer may be a clergyman or a layman, a member of any ecclesiastical organization, or of none, but he should be a man of the highest personal character and of superior intellectual endowment. He shall be chosen by the Faculty and the Board of Trustees of said University in such manner as the said Board of Trustees may determine, but the appointment in any case shall be made at least six months before the delivery of said lectures. . . . "The course of lectures shall be known as the 'Raymond Fred West Memorial Lectures on Immortality, Human Conduct, and Human Destiny.'"

The following general plan and regulations have been adopted by the University: The lectures to be delivered in alternate years; the lecturer to give at least three lectures; the lectures to be published in book form within two years after delivery, the lecturer to have the option of publishing them himself, in which case the University will purchase a hundred copies, or of having the University publish them, in which case it will retain the copyright (in any case the manuscript of the lecturer to be filed in the University archives); the honorarium to be decided in each case by the Board of Trustees, and unless otherwise ordered the entire earnings of the fund for the two years to be devoted to honorariums and to the purpose of publication; the lecturer to be nominated by the President with the approval of the Advisory Board and the consent and ratification of the Board of Trustees.

The sixth series of lectures was delivered by Dr. Henry Osborn Taylor, of New York City, May 4, 5, and 6, 1920. The general subject of the series was "The Freedom of the Human Mind in History."

The topics of the three lectures were (1) The Thesis, (2) Contributions of the Peoples, (3) Later Phases, Bearings of the Theme upon Present Problems.

Intercollegiate Debates

STANFORD-CALIFORNIA

An Intercollegiate Debate, under the auspices of the Associated Students of the University of California and of Stanford University, is held during the autumn of each year. In 1919-20 the debate was held November 21, in Wheeler Hall, University of California.

The question for discussion was, "Resolved, That Congress should adopt the Plumb Plan of Railway Control." The contestants were Clayton O. Fenlason, '20, Matt M. Goldstein, '21, Daniel L. Goodman, '22, of Stanford; A. F. Breslau, '20, C. C. Hildebrand, '21, and J. V. Peyser, of the University of California.

The Judges were Justices Frank M. Angellotti and Curtis D. Wilbur, and Judge George E. Crothers, of San Francisco. The debate was won by the University of California.

JOFFRE

The Medaille Joffre, presented by the Baron de Coubertin, for the purpose of encouraging the study and discussion, in California, of French history and politics, is awarded to the student who, in the opinion of the judges, proves himself the best debater in a contest held for that purpose between Stanford University and the University of California.

Under the rules of the contest the general subject for discussion in 1919-20, "The Electoral System of France," was made known in January, 1920. The debate was held on the evening of April 24, at the University of California. By arrangement with the University of California, the particular phase of the question discussed was chosen by Professor Carlton Hayes of Columbia University and was announced to the debaters two hours before the time set for the debate. The question was, "Resolved, That in the interest of political democracy in France the *scrutin d'arrondissement* is preferable to the *scrutin de liste* with or without proportional representation." Stanford University was represented by Hal C. Blote, '20, William F. Leiser, '21, Matt M. Goldstein, '21; the University of California by Clifton Carl Hildebrand, '21, Kenneth Lloyd Williams, '22, and Clarence Lee Kincheloe, '23. The judges were Justice J. J. Van Nostrand, Mr. H. U. Brandenstein, and Mr. O. K. Cushing of San Francisco. The medal was awarded to Mr. Kenneth Lloyd Williams of the University of California.

STANFORD-WASHINGTON-OREGON

Debates with the Universities of Washington and Oregon are held under the auspices of the Pacific Coast Debating League, composed of Stanford University, the University of Washington, and the University of Oregon. Each institution is represented by two teams of two men each. The teams debate the affirmative and the negative of the same question, which is chosen by the intercollegiate debating committees of the three institutions. The team remaining at home debates the affirmative of the question while the visiting team supports the negative. The question for 1919-20 was, "Resolved, That the movement of organized labor for the closed shop should receive the support of public opinion." The debates were held at the three universities on the evening of March 5.

STANFORD-REDLANDS

A debate was held between Stanford University and the University of Redlands at Stanford, April 6th, on the question, "Resolved, That all railway labor disputes should be submitted to a Federal board of arbitration with compulsory power." The affirmative was upheld by Fred D. Fagg, Jr., Raymond E. Untereiner, and Vernon Green, of the University of Redlands, and the negative by James H. Anglim, Lauder W. Hodges, and Thomas G. Irwin, of Stanford. The judges were Justice William H. Langdon of San Francisco, Professor Allen Marshall Kline, of the College of the Pacific, and Mr. Charles F. Woods, of San Jose. The debate was won by Redlands.

STANFORD-OCCIDENTAL

A debate was held with Occidental College on the evening of May 13, in Los Angeles. The question was, "Resolved, That the United States should undertake military intervention for the establismment of internal order in Mexico." The affirmative was upheld by Theodore E. Bowen, Clyde J. Crobaugh, and Harold J. Miller, of Stanford. The debate was won by Occidental.

STANFORD-UNIVERSITY OF SOUTHERN CALIFORNIA

On the evening of May 14th a debate was held in Los Angeles with the University of Southern California, on the question, "Resolved, That the United States should accept a mandatory over Mexico ('mandatory' being understood as defined in article XXII of the League of Nations' Covenant)." The negative was represented by Theodore E. Bowen, Clyde J. Crobaugh, and Harold J. Miller, of Stanford. The debate was won by Stanford.

MUSEUM AND ART GALLERY

LELAND STANFORD JUNIOR MUSEUM

Pedro J. Lemos, Curator.

In 1880, Leland Stanford, Junior, then eleven years of age, accompanied his parents on a trip through Europe, and collected numerous mementos of the places visited. In 1883, on a second visit, he began to pursue this object more ambitiously, and finally with the idea of establishing a museum. The Leland Stanford Junior Museum was designed by Mrs. Stanford as a memorial to perpetuate this idea, and the various collections are mainly her gift to the Museum.

The collection made by Leland Stanford, Junior, between 1880 and 1884 has been placed in two rooms, and in one room his own arrangement is reproduced in detail. In the room adjoining are found mementos of his early life. These two rooms contain especially Egyptian bronzes, Tanagra figurines, Greek and Roman glass, armor, mosaics, Sèvres and Dresden ware, and the like.

The vestibule and upper corridor are devoted principally to copies of the old masters.

The Di Cesnola Collection contains five thousand pieces of Greek and Roman pottery and glass from the Island of Cyprus.

Another room contains the famous historical relic, "The Governor Stanford," the first locomotive used on the Central Pacific Railroad, in 1864.

The American Collection is made up of mound relics, Indian baskets, Acoma ware, utensils, Alaskan canoes, totem poles, etc. In this room is also a display of material of the stone age purchased by Mrs. Stanford in Denmark. The center case in this room contains practically all the implements extant of the old Mission Dolores, presented by Don Pablo Vasquez, whose father was the last major-domo of the Mission. Included in the Mission collection are some extremely rare relics of Father Junipero Serra and the Carmel and Santa Barbara Missions.

The Ikeda Chinese and Japanese collection, purchased by Mrs. Stanford in 1904, comprises rare art material from the Orient.

In the Chinese and Japanese room there is exhibited a collection of bronzes, arms, china, lacquer, cabinets, musical instruments, rich em-

broideries, and specimens of wood-carving, including the Imperial bedroom set, a marvel in wood-carving and inlaid work; also the famous de Long Collection of Japanese rarities.

The Japanese collection, purchased by Mrs. Stanford in 1902, consists of cloisonné, Satsuma, porcelain, embroideries, Buddhistic images and ivory carvings, and includes a large bronze Koro, over 150 years old. The Corean collection, the gift of Mr. Timothy Hopkins, contains costumes, household goods, cabinets, screens, etc.

One room contains the Anna Lathrop Hewes Collection of paintings, statuary, mosaic, etc. Ceramics collected by Mrs. Stanford include Sèvres, Dresden, Royal Berlin, Persian, Pompador crystal, Bohemian and numerous other wares.

An adjoining room contains the collection of Venetian glassware, mirrors and mosaic art pieces, presented by Messrs. Salviati & Camerino, of Venice, Italy, and comprising almost every conceivable pattern.

The mosaic exhibit, which was made with the personal coöperation of Mr. Zampatto, shows the structural evolution of mosaic from the fusing of the glass to various finished pieces.

THOMAS WELTON STANFORD ART GALLERY

Pedro J. Lemos, Curator.

The Thomas Welton Stanford Art Gallery is composed of four galleries designed for the exhibition of paintings and other works of art.

In the main galleries the collection of paintings donated by Thomas Welton Stanford is placed. Among these are pictures by Minderhout Hobbema, James Giles, R.S.A.; John Frederick Herring, Lienur, Van der Houten, Francis Snyders, W. J. Laidley, David Bates, John Yarley, Juliun M. Price, J. W. Ready, William Melby, James E. Meadows, Elijah Walton, F. G. S.; W. Henry, W. Koek-Koek, E. Wake Cook, T. R. Miles, Sr., John Glover, Herr Schnars-Alquist, Louis Buvelot, William Hart, William Shiels, R.S.A.; S. Bird, Patrick Nasmyth, Emil Bayard, Gerard Lairesse, C. Wimmer, Salvator Rosa, G. Koken, John Weenix, Bachman, Kobell, Jr., Charles Stuart, Heinrich Rasch, Melchoir Hondecooter, Marie Angelica Kaufman, Ten Kate, George Earl, Guardabassi, E. G. Lewis, and E. C. Curtiss.

The rear gallery has been planned for the exhibition of collections of paintings, etchings, and sculpture from eastern and foreign art centers. These exhibitions are announced from time to time as they are received.

DEGREES CONFERRED

[1]October 3, 1919; [2]January 9, 1920; [3]April 9, 1920; June 21, 1920.

BACHELOR OF ARTS

BACTERIOLOGY AND EXPERIMENTAL PATHOLOGY

Augustus James Affleck
[2]Loren Roscoe Chandler
[3]Daniel Coll
[1]Ruby M. Durtschi
Ruth Garland
Lucille Josephine Mahoney
Lois Kentfield Park
[2]Jane Mary Thompson

BOTANY

[2]Harold Clark Hampton
[2]Ruth Clara Hevener
George Card Kimber
George Henry Mallory

CHEMISTRY

[3]Lawrence Alfred Adams
[1]Achille Raymond J. Albouze
[2]William Richmond Barber
Thomas Gregory Bell
[3]Dorothy Eloise Bernard
Samuel Eustace Briggs
[3]Selling Brill
Clifford Courtney Bunds
Lester Archie Bunds
[2]George Kenneth Coonse
[1]Melvin Smith Donaldson
Joseph Smith Doron
[3]Marguerite Eiskamp
[2]Herbert Arthur Endres
Edward Ryuichi Fujii
[3]Milan Wayne Garrett
[2]Chester William Gibbs
Ralph Morell Heintz
Anna Doris Hyer
Adelaide Jameson
Nikizo Kakimoto
Robert Knudtson
Wallace Leonard Kolberg
[1]Lloyd Macy
[2]Mayme Marie Nadelhoffer
[3]Edward Frederick Parthum
[3]Henry Edward Petersen
[1]John Alfred Potter, Jr.
Mason Marion Rhodes
[3]Harrison Painter Smith
Frederick Emmons Terman
Mary Tolman
Tomosuke Uchizono
[3]Reuben Griffith Van Pelt
[1]Charles Eldon White
[3]Fleta Hazel Williams
[3]Philip Samuel Williams
[2]Cornelius Grinnell Willis

ECONOMICS

Wilson Arnett
[3]Verner Christensen Aurell
[2]William Balder Backlund
[1]Lloyd Hinz Berendsen
Mason Bowden Boys
Margaret Wallace Brown
Monroe Leopold Cahn
[2]Frederic Harrington Carroll
George Robert Chambers, Jr.
Donald Francis Clark
[2]Clifton Carlyle Cottrell
Harold Edward Craig
[1]Mervyn Crobaugh
[2]Fred McCall Cronenwett
Horace Willard Cutler
[3]Alva A. Daniells
[2]Lauren Humphrey Dodds
Elizabeth Manwell Dunn
[2]Herbert Iliff Dunn
[2]Ruth Eastman
[3]George Boland Eckhart
Mark Hanna Finley
William Cunningham Fundenberg
[3]Arthur Tolover George, Jr.
[3]Walter Giesecke, Jr.
John Woodrow Graham
[2]Raymond Rudolph Griffin
Katherine Ione Griffiths
[3]Teresa Agnes Hihn
Charles S. Hobbs
Hallock Egelston Hoffman
Ritter Holman
[3]James Martin Holt
Wilbur Kenneth Hood
William Ogden Horton
Katharine Louise Kelly
Frank LeRoy King
Washington Butler LaForce
[3]John Amiel Leak
[2]Malcolm Canmore McGilvray
Edward Richard Martin
[1]Hobart McKinley Mitchell
Lloyd Elmer Morgan
[3]Chauncey Everett Needham
Russell Joseph Nunn
[1]Harumi Okamoto
[1]Ray Wellington Ostrander
Kathryn George Ott
[3]Lillian Caroline Owen
[2]Benjamin Stanley Parks
[3]Arthur Hales Pehl
[2]Neil Harold Petree
Charles Edgar Randall, Jr.
[3]Clemens J. Randau
[3]Roy Lee Richards
[2]Albert Culbertson Robbins, Jr.
Marion Llewellyn Rogers
Gustav Sutro Schwartz
Helen Elizabeth Seager
[1]John Philip Shamberger
Earl Martin Smith
Martha Emily Smith
Anna Florine Taber
[1]Umekichi Takamatsu
Frank Newton Thomas, Jr.
Charles Hickman Titus
Edmond Sewall Turner
Mary Van Wyck Tuthill
Landis Osborn Weaver
Charles Wilson Webb
[2]Clinton Fisk Wells
[3]Oliver Percival Wheeler
Stuart Gordon Whittelsey
Lois Irene Williams
[2]Sasato Yamate

ECONOMICS (Journalism)

Jean Scott Frickelton

EDUCATION

[2]Egbert Bailey Clark, Jr.
[3]Hazel Beatrice Edgar
Louie McKinley Fiske
Evelyn Grace Flowers
Frances Frazier Hambleton
[3]Adah Hope Hart
[2]Eugene Jerel Irwin
[3]Edward Milton Jefferson
[1]Alan Edward Payne
[1]Elsie Ada Pond
[1]Mary Isabel Preston
Frederick Rand Rogers
[2]Einar Ralph Sorensen

EDUCATION (Graphic Art)

[1]Walter Ellett Antrim
Emily Wilhelmina Barkway
[2]Lucy Anita Langdon
Mary Elizabeth Largent
Louis William McDermott
[1]Jessie Kirkland Paxton
Holly Helen Roberts

ENGINEERING

Civil Engineering

[2]Clarence Kuhn Chan
[3]Kenneth Wilfred Crouch
[3]Jerome Kaseberg Doolan
[3]Arthur William Fisher, Jr.
[3]Winslow Gladwin Hall
Gordon Cumming Hess
[2]Adolph Herrmann Hubbard
Milward Stafford Hunkin
[2]Stanley Chamberlain Metcalf
[3]Samuel Salisbury Perry
Louis George Puls
Robert Hiram Remington
Jack Preston Schnier
[2]Edgar Smitherum
[3]Alfonso J. Stocklmeier
[2]Edgar Snyder Winham
Edward Augustine Wright

Electrical Engineering

[2]Aubrey Miller Smith
[3]Herbert Russell Wilde

Mechanical Engineering

Archibald Stuart Alsop
[2]Elmer Jacob Baughman
[2]Monroe Chappelear
[2]Gordon MacMillan Davidson
Hubert Eziro Egami
Franklin Fenelon Evenson
[2]Frederick Rufus Green
[3]Leslie William Hills
Charles Harold Hirst
[1]Charles Hubbard
Warren Evan Hudelson
Leslie H. LaMontagne
[3]Gerald Laros
Raymond Lewelling

[3]Frank Chester Linn
[3]Frank Mendel
James Eugene Moore, Jr.
[3]Theodore Harding Morgan
Starr Carlton Pardee
[2]George Alexander Peers
[3]Donald Frederick Purdy
Karl Griswold Steinbeck
[2]Hans Otto Storm
[2]Ulrich Stephen Thalheimer
[3]Verne L. Tindall
Harry Pennock Wickersham
[3]Joseph Frederick Williamson
[3]David Oakes Woodbury

ENGLISH

Pearl Johnson Corey
[3]Gordon Arthur Davis
Henriette Junkin Dickey
Helen Gertrude Dominguez
[3]Robert Anders Donaldson
Ellen Winifred Eason
Ruth Maxine Elsinger
Bernice Frankenheimer
Mona Marie Gardner
[3]Sadie Opal Garrett
Alice Narcissa Hastings
[1]Ocle Barbara Helvie
Genevieve Hillman
Elizabeth Hyde Holden
[1]Dorothy Elizabeth Kelly
Rachel Graffis Look
Edith McLellan
Verda Manners
[2]Dorothy Marie Plummer
Ruth Gra'Delle Prather
Aileen Higgins Sinclair
[3]Ingegerd Marie Uppman
[3]George William Williamson
Inez Wood
Margaret Wood
Virginia Wood

ENGLISH (Journalism)

Eleanor May Allen
Ellen Mein Calhoun
Thelma Carlisle
[3]Dorothy Catherine Driscoll
[3]Guy Hunter Ferguson
Ruth Isabelle Searcy

ENTOMOLOGY

[2]George Herman Bihlman
[2]Alita Weil

GEOLOGY

[1]Conrad Kauffman Bontz
Floyd Bishop Bothwell
[2]Daniel Brendan Carroll
Percy Summers Crocker
[2]Aubrey Arthur Curtice
[3]Harold Valby Dodd
[2]Ezra Edward Erich
[2]Hal B. Fletcher
Wilbur Heath Haines
[3]Benjamin Franklin Hake
[3]James Douglas McPherson
Edgar Hale Musser
[3]Clarence Wilbur Parsons
Jasper William Paulsen, Jr.
Thomas Drew Radcliffe
Dwight Lewis Sawyer
[3]Harold Ewing Spickard
[3]Clifton Ray Swarts
Thomas Leslie Wark
Rowland Gardiner Whealton
Robin Willis
[2]William Pitt Leroy Winham

GERMANIC LANGUAGES

Blanche Marie Highley
Carmen Analouise Seemann

HISTORY

Leonard Aho
Catherine Thurmond Bailard
Helen Rouse Becker
[3]Mary Ethel Brown
Harriet Gregory Crabtree
[3]Dorothy Dobbings
Edith Ralston Fullerton
[3]Charles Clifton Hurley
Lewis Burt Lesley
Joseph Mandl
[2]Mildred Maurine Merritt
Floyd Bryan Pierson
[2]Marie Caroline Rochfort
Elfreda Allen Smith
Mary Esther Sprott
Dale Byron Van Every
Helen Estelle Weaver
Frances Elizabeth Willis
[2]Isabelle Gibson Young

LATIN

Arlene Zweifel Hand
Hazel Dorothy Hansen
[2]Josephine Martina McCarty

MATHEMATICS

Agnes Camille Andersen
[2]Isabel Bottler Casto
[2]Philippi Harriette Harding
Emilie Marguerite Hevener
[2]Beatrice Wing Mayberry
[3]Ina May Nelson
[3]Anita Marian Squires
Helen Ruth Strawser

PHILOSOPHY

Ivan Benjamin Benson
[2]John Goodwin Locke
[2]William Jackson Losh

PHYSICS

[3]Charles Francis Richter

PHYSIOLOGY

John Anthony Azevedo
Anna Comstock Franklin
[3]George Smout Kocher
Walter Talbot Martin
Stirling Gainer Pillsbury
John Paul Sweeney

POLITICAL SCIENCE

Margaret Cochran Shedd
Ruth Irene Voris

PRE-CLINICAL GROUP

Everett Carlson
[1]John Joseph Lalor Doyle
[1]Ivan Clyde Heron
Milton Lester Levy
[2]Merlin Trevor-Roper Dacre Maynard
[1]Matsuta Takahashi
[2]Percy Vernon Thompson
Granville Numan Wood, Jr.

PRE-LEGAL CURRICULUM

[3]Walter Irving Ames
[1]Edward Willingham Arnold
[1]Asaph Perry Bacon
Harvey Dillon Bailey
[1]Leonard Stanford Barnes
James W. Bucklin, Jr.
[3]Loris Vaughn Cady
[2]Carlisle Cameron Crosby
[2]Ivores Roy Dains
Guard Clement Darrah
Robert Gardner Dingley
[2]John Gerald Driscoll, Jr.
[1]Henry Eickhoff, Jr.
[2]Clayton Orin Fenlason
[1]Abner Sam Glikbarg
Matt Moses Goldstein
[1]Chalmers George Graham
Arnold John Greis
[3]Milton Curtiss Gunn
Edwin Wilson Hadley
[1]Benjamin Arthur Harris
[3]Barnard Wilson Hartman
Arthur Jerome Harzfeld
[3]Gilbert Henry Jertberg
Ralph Harding Jones
[3]Everett Seymour Layman
[3]Albert W. Leeds
John Kenneth Lilly
[3]Frank Lyons
Ivan G. McDaniel
[2]Robert Koehler Meyers
[1]Harold Carpenter Perry
[1]James Abram Quinby
[3]Jere Thomas Reynolds
[2]Bernard Buckley Robinson
Eugene Stuart Sanden
[1]Harold Shepherd
Harold Bellamy Starkey
Richard Eldon Wedekind
Atwell George Westwick
Burnet Coleman Wohlford
[3]Horace Byington Wulff

PSYCHOLOGY

Thelma Ruth Coffin
Alice Everts Faitoute
[3]Marian Helen Roth

ROMANIC LANGUAGES

Ellen White Bailard
Helen M. Burke
Fidelia Elizabeth Conard
[1]Ruth Marie Eubanks
Martha Jane Graveley
[2]George Donald Gray
[3]Helen Eugenia Haist
Helene Marie Hall
Laurence Chalmers Hall
Nancy Harriette Holt
[2]Bonita Jansen
[3]Teresita Trescony Johnson
Elizabeth MacArthur
Ivan Rush Messenger
Gertrude Marian Peters
[3]Dorothy Marie Riggs
Helen Richardson Squire
Zelda Louise Wickersham

ZOOLOGY

[1]Helen Margery Edwards
[2]Bertrand Thomas Ford
[1]Elsa Margaret Kluegel
[1]Henry Joseph Lund
William Henry Murphy
Kazue Togasaki

AT LARGE

[2]Eldridge Richardson Thrapp

BACHELOR OF LAWS

[3]Charles Suskin Cohn

Milton Curtiss Gunn, A. B.

MASTER OF ARTS

CHEMISTRY

Robert John Cross, A. B.

ECONOMICS

Harumi Okamoto, A. B.

EDUCATION

Frederick Foster Borncamp
A. B., Northwestern University.

[1]Corinne Davis, A. B.

John Nathaniel Helmick
A. B., Oklahoma University.

Arthur Dack Hollingshead
A. B., Nebraska Wesleyan University.

[2]Lowry Samuel Howard, A. B.

Herman F. Minssen, A. B.

Laura Niles
B. S., Iowa State College.

Elsie Ada Pond, A. B.

Mary Isabel Preston, A. B.

EDUCATION (Graphic Art)

Beatrice Carroll Tabor
A. B., University of Wisconsin.

ENGLISH

Geneva Katharine Davis
A. B., University of Missouri.

[1]Dorothy Foster Gilman
A. B., Radcliffe College.

Miller L. McClintock, A. B.

Mary Aline Polk
A. B., Indiana University.

Charlotte Wythe Rideout
A. B., College of the Pacific

[1]Jean Pauline Smith
A. B., University of California

[2]Harold Remington Stevens, A. B.

Sylvia Carmen Wedel
A. B., University of Wisconsin

GEOLOGY

Sidney Francis Adams, A. B.

Otis Emmons Briggs, A. B.

GERMANIC LANGUAGES

Esther May Frazer
A. B., College of the Pacific

[1]Philip Hofmann
A. B., University of Chicago

HISTORY

George Harold Anderson, A. B.
[1]Margaret Elaine Bennett, A. B.
Gladys Blanche Footman, A. B.
William Henry Handley
A. B., College of the Pacific.
Edith Maples Ogden, A. B.
Marian Luverne Peek, A. B.
Richard Henry Piatt, A. B.

LATIN

Lenell Ethlyn Garvin, A. B.
[1]Ruth Edna Guild
A. B., Ohio Wesleyan University
[1]Mary Eleanor Nash
A. B., Baker University
[1]Elma Louise Snyder
A. B., Lawrence College

PHILOSOPHY

[2]Dennison Alexander Russell, A. B.

PHYSICS

[3]George Russell Harrison, A. B.

PHYSIOLOGY

Edna Elizabeth Perry
A. B., Simmons College
[1]Helen Lucile Williamson, A. B.

ROMANIC LANGUAGES

[3]William Leonard Schwartz
A. B., Ohio Wesleyan University
Edith Claire Spare
A. B., University of California
Marion Albert Zeitlin, A. B.

ENGINEER

CHEMICAL ENGINEERING

[3]William M. Schaufelberger, A. B.
[3]Sidney Schein, A. B.

CIVIL ENGINEERING

Paul Bailey
B. S., University of California
Edward Hyatt, Jr., A. B.

ELECTRICAL ENGINEERING

Charles Dudgeon Howe, A. B.
Harry John Rathbun, A. B.

MECHANICAL ENGINEERING

[1]Walter Edmund Helmick, A. B.
Howard Ogier Snyder, A. B.

MINING AND METALLURGY

[3]Arthur Warren Ambrose, A. B.
[3]Ezra Edward Erich, A. B.
Elmer Walter Pehrson, A. B.

JURIS DOCTOR

Earl Clinton Adams, A. B.
[2]James Douglass Adams, A. B.
[2]Quincy Cass, A. B.
[2]Charles Franklin Cook, A. B.
David Porter Dunlap, A. B.
[1]Albert Bernhardt Fisher, A. B.
[2]Elystus Lyon Hayes, A. B.
Edward Henderson, A. B.
Herman Hubert Hoss, A. B.
Helen Ruth Kalischer, A. B.
[2]George Clark Kincaid, A. B.
[2]George Henry Nicholas Luhrs, Jr., A. B.
Raymond Verne McCullough
A. B., University of Utah
Bruce William McDaniel
A. B., Willamette University
[1]Dickson Farnsworth Maddox
A. B., University of California
Joseph McKinley Maltby, A. B.
[1]Charles Dunn Moore, A. B.
Wendell Keigh Phillips, A. B.
George Kenneth Scovel, A. B.
[3]Josephine Welch, A. B.
[3]Ernest Elias Williams, A. B.
[2]Alfred Carter Young
A. B., Yale University

DOCTOR OF MEDICINE

[1]Edwin Forrest Boyd, A. B.
Thomas Sheridan Carey, A. B.
John Alfred Cooper, A. B.
Donald Gordon Davy, A. B.
Chester Arthur DeLancey
A. B., University of California
Clara Eugenia Finney, A. B.
Mabel Consuelo Finney, A. B.
Hans von Geldern
A. B., University of California
John Maddux Graves, A. B.
Yoshio Kusama, A. B.
Russell Van Arsdale Lee
B. S., University of California
Ralph Dougall Lillie, A. B.
James Clifford Parrott
Lloyd Robinson Reynolds, A. B.
Earl Frederick Roth, A. B.
Paul Herman Streichan
A. B., University of California
Albert James Supple, A. B.
Louise Everett Taber
B. S., University of California
[1]Arthur Lewis Teeter
A. B., Indiana University
John Marshall Tufts, A. B.

DOCTOR OF PHILOSOPHY

CHEMISTRY, PHYSIOLOGY

[2]Rolin Guizot Myers
A. B., and A. M., Case School of Applied Science

EDUCATION, ECONOMICS

[1]Virgil Everett Dickson, A. M.
A. B., State College of Washington

EDUCATION, PSYCHOLOGY

Arthur Sinton Otis, A. B., A. M.
[2]William Thomas Root, Jr., A. B., A. M.
James Leroy Stockton
A. B., and A. M., Columbia University.

FRENCH, SPANISH

Otto Carl Gebert

FELLOWSHIPS AND SCHOLARSHIPS

1919-20

FELLOWSHIPS

Thomas Welton Stanford Fellowship in Psychic Research

John Edgar Coover.....Stanford University
A. B., Stanford, 1904, A. M., 1905, Ph. D., 1912

Buckel Fellowship in Education

William Thomas Root, Jr.....Stanford University
A. B., Stanford, 1912, A. M., 1913, Ph. D., 1920

Fellowship in School Administration

Curtis Merriman.....Cheney, Wn.
A. B., Indiana, 1902; A. M., Columbia, 1916

Fellowship in the Study of Superior Children

Nellie Nevada Neal.....New Bedford, Pa
A. B., University of Washington, 1912

University Fellowships

Sidney Francis Adams (Geology).....Stanford University
A. B., Stanford, 1917, A. M., 1920

L. M. G. Baas Becking (Botany).....Stanford University
M. S., University of Utrecht, 1919

Francis William Bergstrom (Chemistry).....Stanford University
A. B., Stanford, 1918, Engineer, 1919

Phyllis Maud Carbaugh (English).....Palo Alto

Margaret McElin (English).....Kansas City, Mo.
A. B., Stanford, 1919

Charles Kirkton McWilliams (Chemistry).....San Jose
A. B., Stanford, 1912, A. M., 1913

Frederick Paul Vickery (Geology).....Palo Alto
B. S., California, 1905; A. M., Stanford, 1919

Kimball Young (Education).....San Jose
A. B., Brigham Young College, 1915
A. M., University of Chicago, 1918

Teaching Fellowships in Chemistry

Imo Pearl Baughman ..... Los Angeles
A. B., Stanford, 1918, A. M., 1919

Herbert Arthur Endres ..... Los Angeles
A. B., Stanford, 1920

William M. Schaufelberger ..... Hastings, Neb.
A. B., Stanford, 1918, Engineer, 1920

Sperry Fellowship in Chemistry

Robert John Cross ..... Mayfield
A. B., Stanford, 1911, A. M., 1920

Hoover Fellowships in Mining and Metallurgy

Aubrey Arthur Curtice ..... Spokane, Wn.
A. B., Stanford, 1920

Herschel Livingston Driver ..... Portland, Ore.
A. B., Stanford, 1919

Seabury Fellowship in World Politics

Eldon Griffin (History) ..... Enid, Oklahoma
A. B., Harvard, 1916

GRADUATE SCHOLARSHIPS

Alumni Jordan Scholarships in Medicine

T. Raymond Haig ..... Oakland
A. B., Stanford, 1918

Leonard Ramsey Thompson ..... Everett, Wn.
B. S., University of Washington, 1916.

George E. Crothers Law Scholarship

Herman Hubert Hoss ..... Corona
A. B., Stanford, 1918, J. D., 1920

Cyril F. Elwell Scholarship in Electrical Engineering

Harry John Rathbun ..... Stanford University
A. B., Stanford, 1916, Engineer, 1920

University Scholarships

Arthur Bruce Anthony (Economics) ..... Sunnyvale
A. B., Stanford, 1919, A. M., 1920

William Richmond Barber (Chemistry) ..... Stanford University
A. B., Stanford, 1920

William Albert Boekel (Law) ..... Rathdrum, Ida.
A. B., Idaho, 1917

Monroe Chappelear (University) ..... Los Angeles
A. B., Stanford, 1920

Sigurd von Christierson (Medicine) ..... San Jose
A. B., Stanford, 1917

George Hurach Cloud (History) ..... Fresno
A. B., Stanford, 1919

Newcomb Condee (Law) ..... Los Angeles
A. B., Stanford, 1919

Clifton Carlyle Cottrell (Economics-Law) ..... San Jose
A. B., Stanford, 1920

Harold Enos Crowe (Medicine) ..... Long Beach
A. B., Stanford, 1917

Ellen Mackenzie Dodson (English) ..... Pasadena
A. B., Southern California, 1919

Gladys Blanche Footman (History) ..... Madera
A. B., Stanford, 1919, A. M., 1920

James Morrille George (Medicine) ..... Palo Alto
A. B., Brigham Young, 1912

Joseph Goldstein (Medicine) ..... Sacramento
A. B., Stanford, 1919

Harold Clark Hampton (Botany) ..... Whittier
A. B., Stanford, 1920

Ivan Clyde Heron (Medicine) ..... Watsonville
A. B., Stanford, 1919

Clara Eulalie Howard (Economics) ..... Benton, Ill.
A. B., Chicago, 1917

Pu Hwang (Education) ..... Changsha, China
A. B., Stanford, 1919

Frank Reed Johnston (Medicine) ..... San Jose
A. B., Stanford, 1917

Jessie Kirkland Paxton (English) ..... Orange
A. B., Stanford, 1919

Elmer Walter Pehrson (Mining) ..... San Jose
A. B., Stanford, 1918, Engineer, 1920

Edna Elizabeth Perry (Physiology) ..... Harrisburg, Pa.
B. S., Simmons, 1914

Mary Isabel Preston (Education) ..... Santa Clara
A. B., Stanford, 1919, A. M., 1920

Hubert Bernard Reilly (Chemistry) ..... Portland, Ore.
A. B., Stanford, 1918

Harold Shepherd (Law) ..... Paris, Ida.
A. B., Stanford, 1919

Aubrey Miller Smith (Electrical Engineering) ..... Chico
A. B., Stanford, 1920

Louina Margaret Van Norman (English) ..... Los Angeles
A. B., Wisconsin, 1915
Sylvia Carmen Wedel (English) ..... St. Louis, Mo.
A. B., Wisconsin, 1917; A. M., Stanford, 1920
Clinton Fiske Wells (Economics) ..... San Jose
A. B., Stanford, 1920
Oliver Percival Wheeler (Economics) ..... Petaluma
A. B., Stanford, 1920

UNDERGRADUATE SCHOLARSHIPS

The John Maxson Stillman Scholarship in Chemistry

Allan C. Richardson ..... Washington, D. C.

The Leland Stanford Junior Memorial Scholarship

Leo Gregory Gianini (Mechanical Engineering) ..... San Francisco

The W. J. Dickey Scholarships

Paul Ferdinand Erickson (Law) ..... Kingsburg
Shungo Furui (Mechanical Engineering) ..... Selma

The Bertha Hyde Braly ('97) Scholarship

Mary Elizabeth Hewett (Zoology) ..... San Jose

The Wilmer J. Gross ('16) Scholarship

Dell Theodore Lundquist (Chemistry) ..... Middletown

The Brodie G. Higley ('99) Scholarship

Clifford Courtney Bunds (Chemistry) ..... Santa Clara

The Mrs. McDowell ('07) Roble Club Scholarship

Helen Rouse Becker (History) ..... Pacific Grove

The Dorothy Metz ('17) Scholarship

Marjorie Ferguson Wells (English) ..... Pasadena

The Gertrude Gardiner Scholarship

Ruth Allen Nethercut (Bacteriology) ..... Lake Geneva, Wis.
A. B., Stanford, 1919

STUDENTS

Name; home residence; major subject; status; University residence; post-office. Post-office in all cases *Stanford University* except where University residence is followed by initial letter of town ('p' indicates *Palo Alto* post-office; 'Mayfield-m,' *Mayfield* post-office, etc.). Street address *Palo Alto* or *Campus* unless otherwise named.

Status.—gr. graduate student; sp., special student. The superior figure [1] indicates registration for the autumn quarter only; [2] indicates winter quarter only; [3] indicates spring quarter only; [4] indicates summer quarter only; [5] indicates attendance for all four quarters; omission of superior figure indicates attendance for autumn, winter, and spring quarters; [12] indicates autumn and winter quarters only; [23] indicates winter and spring quarters only; [13] indicates autumn and spring quarters only; and so on. The asterisk (*) indicates registered *in absentia*. (Phys., Physics; Phyl., Physiology.)

[1]Abbott, William Lindley	San Francisco	Law	Phi Delta Theta
[234]Abraham, Arthur William	Los Angeles	Geol.	500 Encina
[23]Abrahamson, Jack Hugo	San Francisco	Hist.	560 Encina
[34]Abrams, Harry William	Stanford Univ.	Geol. sp.	Theta Delta Chi
[4]Acker, Bennett Nicholas	Oakland	Law	281 Embarcadero-p
Adams, Earl Clinton	San Jose	Law gr.	Delta Tau Delta
A. B., Stanford, 1916, J. D., 1920			
Adams, Eugene Robert	Mountain View	M. E.	Dana St., MV-mv
Adams, Frederick Lawson	Sacramento	C. E.	Phi Gamma Delta
[1]Adams, James Douglass	Stanford Univ.	Law gr.	27 Salvatierra
A. B., Stanford, 1915, J. D., 1920			
[12]Adams, Lawrence Alfred	Santa Clara	Chem.	Theta Xi
A. B., Stanford, 1920.			
Adams, Sidney Francis	Stanford Univ.	Geol. gr.	27 Salvatierra
A. B., Stanford, 1917, A. M., 1920			
[234]Adams, William Bryan	San Jose	Econ.	Delta Tau Delta
Adams, William Forbes	Stanford Univ.	Hist.	27 Salvatierra
[1]Adamson, Lilburn Leroy	Lower Lake	Hist.	El Camino
Adrian, Elaine Yolande	Santa Barbara	Engl.	Alpha Omicron Pi
Affleck, Augustus James	Sacramento	Bact.	900 Ashbury, SF-sf
A. B., Stanford, 1920			
[4]Aguerrevere, Pedro I.	Venezuela, S. A.	Geol.	Santa Suzana-ss
[5]Aho, Leonard	Two Harbors, Minn.	Hist. gr.	1460 Bryant-p
A. B., Stanford, 1920			
[12]Alberson, Vida Leola	Palo Alto	Econ.	715 Bryant
Albouze, Achille Raymond J.	Soledad	Chem. gr.	231 Encina
A. B., Stanford, 1919			
[12]Alcorn, Donald Eldredge	Hollywood	Law	660 Waverley-p
[5]Alejano, Delfin P.	Ilog, Neg. Occ., P. I.	C. E.	365 Channing-p
[5]Alexander, Ralston Carroll	Salinas	Ed. G. A.	El Camino
Algeo, Kathryn Oudry	Alhambra	Econ.	Chi Omega

Allegrini, Rose Gertrude	Santa Clara	Latin	1895 Catherine, SC-sc
Allen, Carnot R.	San Antonio, Tex.	Econ.	138 Encina
Allen, Eleanor May	Pasadena	Engl.	Alpha Phi
A. B., Stanford, 1920			
Allen, Ernest William	Ball Ground, Ga.	Econ. sp.	228 Encina
[4]Allen, Marie Louise	San Jose	Latin	65 Singletary, SJ-sj
[5]Allen, Martha Lucile	Pasadena	Ed. G. A.	Alpha Phi
Allen, Raymond Jackson	Riverside	Econ.	304 Encina
[5]Allexsaht, William John	Weiser, Ida.	Phyl.	9 Sequoia
[4]Allyn, Lawrence G.	Oakland	Econ.	21 Encina
Alsop, Archibald Stuart	Bemidji, Minn.	M. E.	332 Channing
A. B., Stanford, 1920			
[5]Alvord, Benjamin, Jr.	San Francisco	C. E.	28 Sequoia
Amberg, Gustav Adolf	San Francisco	C. E.	448 Encina
[1]Ambrose, Arthur Warren	San Francisco	Min. gr.	506Cust.House,SF-sf
A. B., Stanford, 1914, Engineer, 1920			
[4]Ames, Damaris	Chicago, Ill.	Engl.	951 Bryant-p
[1]*Ames, Elmer Ruel	San Francisco	Econ.gr.	517SharonBld.,SF-sf
A. B., Stanford, 1917			
[5]Ames, Walter Irving	Ontario	Law gr.	234 Encina
A. B., Stanford, 1920			
Amieva, Manuel Martin	Mex. City, Mex.	Chem.	33 Sequoia
[5]Amphlett, Janet Edith	San Mateo	Fr.	70 Sycamore, SM-sm
Andersen, Agnes Camille	Spokane, Wn.	Math.	232 Roble
A. B., Stanford, 1920			
Andersen, Emelie Eleanor	Spokane, Wn.	Phyl. gr.	263 Roble
A. B., Stanford, 1919			
[12]Anderson, Chas. Warren	Redondo Bch.	Econ.	72 Sequoia
[5]Anderson, David McCulloch	Santa Ana	Geol.	Theta Delta Chi
Anderson, Doris Evelyn	Everett, Wn.	Bact.	354 Roble
Anderson, Eleanor Calhoun	Los Angeles	Econ.	KappaKappaGamma
[23]Anderson, Frederick Leroy	Forestville	Chem.	530 Encina
Anderson, Grant Young	Malad, Ida.	Zool.	65 Sequoia
[5]Anderson, Henry Stow	Mayfield	Econ.	College Terrace-m
[12]Anderson, John Alston	Rossland, B. C.	Law	206 Encina
Anderson,ShermanCowan	Winslow,Ariz.	Pol. S.	19 Encina
[5]Andrews, Allen Hastings	Los Angeles	Engl.	Museum
Andrews, Amy Violet	Los Angeles	Econ.	339 Roble
Anglim, James Harold	Oakland	Econ.	352 Encina
Ankele, CordesWesterfeld	SanFrancisco	Med. gr.	1670 Clay, SF-sf
A. B., Stanford, 1919			
Ankele, John Henry, Jr.	SanFrancisco	Law	Chi Psi

[234]Anthony, Arthur Bruce	Sunnyvale	Econ. gr.	Sunnyvale-s
A. B., Stanford, 1919, A. M., 1920			
Anthony, Donald Elliot	Sunnyvale	Econ.	Sunnyvale-s
[2]Antrim, Walter Ellett	Cairo, Ill.	Ed. G. A. gr.	Theta Delta Chi
A. B., Stanford, 1919			
Anzini, Daniel Irwin	Mountain View	M. E.	Mountain View-mv
[4]Apgar, Genevieve	St. Louis, Mo.	Engl. gr..	254 Roble
A. B., Chicago, 1910.			
[5]Appleton, Louis Ellsworth	San Jose	Phyl.	546 S. 12, SJ-sj
Applewhite, SamuelP.,Jr.	Douglas,Ariz.	Geol.	Phi Kappa Sigma
Ardell, RobertBernard,Jr.	SanFrancisco	Hist.-Law	66 Sequoia
[5]Arleth, Karl	Long Beach	Geol.	Theta Xi
[4]Armitstead, Reo B.	San Francisco	Chem.-Med.	Encina
[5]Armstrong,RobertHenry	Phoenix,Ariz.	Law	Delta Chi
Arnett, Richard W.	Los Angeles	Econ.	138 Encina
Arnett, Wilson	Los Angeles	Econ.	138 Encina
A. B., Stanford, 1920			
[12]Arnn, Charles Edward	Cairo, Ill.	Law	24 Lasuen
[3]Arnold, Edward Garratt	San Jose	M. E.	49 No. 15th, SJ-sj
[14]Arnold, Edward Willingham	Riverside	Law. gr.	Kappa Alpha
A. B., Stanford, 1919			
[1]Arnott, Sarahbelle	Palo Alto	Engl.	424 Seneca-p
[1]Asher, Marion	Los Angeles	Econ.	158 Roble
[5]Ashley, Willa	Palo Alto	Fr.	611 Waverley-p
Aspinwall,Harold McKinley	Brooks,Ore.	Chem.	318 Encina
Aten, Imogen	El Centro	Econ.	846 Bryant-p
Atkinson, Francis Decker	La Jolla	Chem.	237 Encina
Atwood, David Stoddard	Los Angeles	M. E.	402 Encina
Aubert, Lloyd Lees	San Mateo	Geol.	220 Clark Dr., SM-sm
Auffinger,GeorgeH.,Jr.	North East, Pa.	Econ. gr.	2 Salvatierra
A. B., Oberlin, 1919			
[2]Aurell, Verner C.	McPherson, Kans.	Econ.	203 Encina
A. B., Stanford, 1920			
[23]Austin, Arthur, Jr.	Oakland	Econ.	Delta Tau Delta
Austin, Carl Rutherford	Modesto	Econ.	247 Encina
Austin, Harry Victor	Oakland	Geol.	Delta Tau Delta
Averill, Harold Light	Portland, Ore.	Phyl.	316 Encina
[5]Azevedo, John Anthony	Sacramento	Phyl.-Med. gr.	707 Bryant-p
A. B., Stanford, 1920			
Azevedo, Manuel Leal	Sacramento	Med. gr.	2448 California,SF-sf
A. B., Stanford, 1917			
Babcock, StephenH.,Jr.	SaltLakeCity,U.	M. E.	Phi Kappa Psi
Bachman, Frederick W.	New York, N.Y.	Ger.	28 Sequoia
[5]Bachrodt, Walter Lewis	Palo Alto	Educ.	826 Waverley-p

[23]Bacigalupi, RimoCharles	San Francisco	Engl.	Cedro Cottage-rc
de Back, Emery Edgar	San Jose	M. E.	83 W. St. James, SJ-sj
Backlund, William Balder	Kingsburg	Law gr.	303 Encina
A. B., Stanford, 1920			
Bader, Walter Alfred	Aromas	Zool.	P. A. Military Acad.-p
[1]Baer, Sidney Howard	Hoquiam, Wn.	Chem.	308 Encina
Baer, Sylvan	Hoquiam, Wn.	Chem.	308 Encina
Bailard, Carey Gwyn	Carpinteria	Econ.	Pi Beta Phi
Bailard,CatherineThurmond	Carpinteria	Hist.	320 Roble
A. B., Stanford, 1920			
Bailard, Ellen White	Carpinteria	Fr.	104 Roble
A. B., Stanford, 1920			
Bailey, Francis Paul	Hillsboro, Ore.	Phyl.	Phi Kappa Psi
Bailey, Harvey Dillon	Asotin, Wn.	Law	512 Lytton-p
A. B., Stanford, 1920			
Bailey, Marguerite Doris	Red Bluff	Ed. G. A.	Roble
[4]Baird, Mary Anna	Pittsburgh, Kan.	Ed. G. A. gr.	Mayfield-m
B. S., Pittsburgh (Kan.) S.N.S., 1918.			
[4]Baker, Ida May	Fresno	Educ.	104 Roble
[5]Baker, Harry Vincent	Grimes	Phyl.-Med.	333 Encina
[1]Baker, Herbert Chappman	Santa Clara	C. E. sp.	Zeta Psi
Baldwin, Stephen Glidden	Sidell, Ill.	Zool.	454 Forest-p
Ball, Robert August	Jerome, Ariz.	M. E.	307 Encina
Ballinger, Richard Talcott	Seattle, Wn.	Law	Zeta Psi
[34]Balmat, Cecil Hastings	Spokane, Wn.	M. E.	302 Encina
Baptie, Albert Sheldon	Bakersfield	Geol.	Sigma Nu
[1]Barbare, Peter Jerome	Portland, Ore.	M. E.	Phi Delta Theta
[5]Barber, Allyn Herschel	Los Angeles	Law gr.	Zeta Psi
A. B., Stanford 1919			
[12]Barber, Wm. Richmond	Stanford Univ.	Chem. gr.	227 Encina
A. B., Stanford, 1920			
[4]Barker, Kathryn Urith	San Jose	Hist.	216 Fulton-p
Barker, Richard Hindry	Palo Alto	Engl.	633 Hamilton-p
Barkway,EmilyWilhelmina	Mount.View	Ed. G. A.	Sigma Kappa
A. B., Stanford, 1920			
Barnard, Leonard Bryan	Niles	Phyl.	El Camino
Barnes, Edwin Rexford	Ceres	Econ.	21 Sequoia
[5]Barnes, Leonard Stanford	Compton	Law gr.	562 Encina
A. B., Stanford, 1919			
[1]Barnes, Maud Louise	Los Angeles	Law	Alvarado Hall
Barnett, Charles Wentworth	Santa Rosa	Chem.	Kingscote
Barnett, Edwin Dwight	Santa Rosa	Chem.	Kingscote
[34]Barney Marion David	Cowley, Wyo.	Econ. sp.	227 Encina
[13]Barnhart, Harriett Glines	San Diego	Hist.	Pi Beta Phi

Barooshian, Stephen Mardiros	Fresno	Hist.	Sequoia
Barrette, Walter Suiter	SaltLakeCity, U.	Law	Phi Kappa Sigma
Barricklow, Lulu Eljah	Turlock	Engl.	326 Roble
[5]Barry, David Noble, Jr.	Los Angeles	Econ.	Delta Tau Delta
[234]Barry, WilliamTaylor, Jr.	SantaBarbara	Engl. gr.	365 Channing-p
A. B., Stanford, 1916			
Bartle, Gerald Fremont	Monrovia	Econ.	El Camino
[1]Bartlett, John Hale	Pasadena	C. E.	Alpha Tau Omega
Barton, Eugene De Hart	Stanford Univ.	Econ.	434 Encina
[5]Barton, John Tracy	Milton, Ore.	Law. gr.	El Camino
A. B., Stanford, 1919			
Barton, RobertaMarie	Colo.Springs, Colo.	Fr.	458 Channing-p
[23]Bartow, Harvey R.	Long Beach	Chem.	451 Channing p
[5]Bassett, Thomas E.	Palo Alto	Geol. sp.	332 Channing-p
[23]Batchelder, Albert Perkins	Millbrae	Ent.	Sigma Chi
Bateman, Albert John	Monrovia	C. E.	32 Encina
[234]Bates, Charles E. H.	Alameda	Pre-Clin.	11 Salvatierra
[1]Baughman, Elmer Jacob	Mayfield	M. E.	280 Park, M
A. B., Stanford, 1920			
[5]Baughman, Imo Pearl	Los Angeles	Chem. gr.	163 Roble
A. B., Stanford, 1918, A. M., 1919			
[1]Bautista, Eliseo M.	Palo Alto	Geol.	365 Channing
[23]Bayley, Arnold Blakeman	Los Angeles	M. E.	48 Sequoia
Beach, Eleanor Lee	Palo Alto	Fr.	207 Roble
[13]Beal, Carl Hugh	Palo Alto	Min. gr.	517SharonBld.,SF-sf
A. B., Stanford, 1913, A. M., 1915			
Bean, James	San Jose	M. E.	755 Univ., SJ-sj
[4]Beard, Harvey D.	Pittsburgh, Kan.	Geol. sp.	Campus
Beattie, Augustus Canfield	Portland, Ore.	Phyl.	Kappa Sigma
[5]Beaver, Harold Jay	Los Angeles	Med. gr.	449 Encina
B. S., Washington State College, 1916			
[4]Beaver, Mary Ann	Palo Alto	Educ. gr.	912 Waverley-p
A. B., Stanford, 1917			
[12]Becker, George Henry	San Francisco	Med. gr.	564 Waller, SF-sf
A. B., California, 1916.			
Becker, Helen Rouse	Pacific Grove	Hist.	214 Roble
A. B., Stanford, 1920			
[23]Becker HugoErnest	Springerville, Ariz.	M. E.	244 Encina
Becker, Hugo Herman	El Paso, Tex.	Chem.	223 Encina
[234]Becking, L. G. M. Baas	Stanford Univ.	Bot. gr.	Kingscote
M. S., University of Utrecht, 1919			
Beckman, Philip Enoch	San Francisco	M. E.	229 Encina
[1]Beckwith, Marian Ida	Palo Alto	Econ.	318 Emerson-p

Beckwith, Therese	Los Gatos	Ent.	Gamma Phi Beta
[1]Behrens, Louis Adelbert	Redwood City	Econ.	210 Jefferson, RC-rc
Belcher, Dorothy Kathryn	Pomona	Engl.	149 Roble
[23]Bell, Arthur T.	Pasadena	Econ.	117 Encina
Bell, Gertrude Sumption	San Diego	Educ. gr.	351 Channing-p
Bell, Muriel Frances	Palo Alto	Fr.	532 Homer-p
Bell, Thomas Gregory	Berkeley	Chem.	105 Encina
A. B., Stanford, 1920			
Benedict, Charles Winchester,Jr.	Fresno	PreL. sp.	Alpha Sigma Phi
[5]Benedict, Howard C., Jr.	Morgan Hill	Math.	1100 Bryant-p
Bennett, Francis Henry	Joplin, Mo.	Econ.	Phi Kappa Sigma
Benson, Gilbert Thereon	Oswego, Ore.	Engl.	Palo Alto Hotel-p
Benson, Ivan Benjamin	Ely, Minn.	Phil.	Sigma Nu
A. B., Stanford, 1920			
[5]Bentley, B. Howard	Palo Alto	Geol.	704 Waverley-p
[4]Bentley, Elizabeth Noël	Menlo Park	Fr.	Menlo Park-m
[134]Bentz, Helen	Pasadena	Span.	Pi Beta Phi
[12]Berendsen, Anita Marguerite	San Fran.	Econ.	169 Roble
[2]Bergman, Eugene E.	Breckenridge,Colo.	Chem.	Campus
[5]Bergstrom,FrancisWm.	Stanford Univ.	Chem. gr.	25 Salvatierra
A. B., Stanford, 1918, Engineer, 1919			
[23]Berlin, Alfred Brooks	Berkeley	PreL.	Delta Tau Delta
Bernard, Dorothy Eloise	Mountain View	Chem. gr.	146 Roble
A. B., Stanford, 1920			
[4]Bernstein, Frank Stewart	San Francisco	Hist.	43 Encina
Bernt, Daniel Martin, Jr.	Manteca	M. E.	El Camino
Berry, James Clarke	Selma	M. E.	521 Encina
Berry, Melba Eloyse	Palo Alto	Ed. G. A.	833 Hamilton
[12]Berry, Othmar Berarde	Selma	Econ.	122 Encina
Bertrand,DeWittClinton	Aberdeen,Wn.	M. E.	107 Encina
[1]Bestandig, Walter Milton	San Francisco	Hist.	522 Encina
Betts, Forrest Arthur	Phoenix, Ariz.	Law	435 Encina
Beuter, Paul Henry	Los Angeles	Econ.	118 Encina
[4]Bez, Myrtle Marie	Irvington	Educ.	1523 Laguna, SF-sf
Bianchi, Henry Edwin	San Luis Obispo	Law	533 Encina
Bianchi, Marie Lucy	Mountain View	Math.	Mountain View-mv
Bichsel, Stanley Earnest	Ogden, Utah	Econ.	Beta Theta Pi
[4]Biddulph, Herbert Kemp	Riverdale	Educ.	University Hotel-p
[1]Bigler, Montell Evelyn	Palo Alto	M. E.	534 Channing-p
[1]Bihlman, George Herman	Live Oak	Ent.	451 Encina
A. B., Stanford, 1920			
Bilger, Carl Henry	Los Angeles	Econ.	336 Encina

Billings, Geraldine	McFarland	Engl.	230 Roble
Bills, Walter Leonard	Coalinga	C. E.	200 Encina
Bingham, Bertram Wallace	Riverside	Econ.	345 Encina
[234]Binkley, Tholow	Palo Alto	Med. gr.	334 Lincoln-p
A. B., Stanford, 1910			
Binns, Archie Fred	Shelton, Wn.	Engl.	127 Encina
Bird, Milo Alfred	Melones	Chem.	22 Sequoia
[4]Birlew, Paul Egbert	Berkeley	M. E.	126 Encina
[1]Bishop, Meredith	Phoenix, Ariz.	Fr.	149 Cowper-p
Bissinger, Edward Lee Hudson	Lompoc	Law	433 Encina
[23]Blabon, Kingdon Beal	Cupertino	Econ.	Sigma Chi
[12]Black, Nelson Wilson	San Francisco	Engl.	15 Encina
Black, William Madison, Jr.	Salinas	C. E.	Delta Upsilon
[5]Blackburn, Chester Oklahoma	Ontario	Chem. sp.	62 Encina
Blackburn, Roger E.	Aberdeen, Wn.	Chem.	60 Encina
Blackman, Birt Griffin	Ogden, Utah	Econ.	128 Encina
Blackman, William Henry	Ogden, Utah	Pol. S.	128 Encina
[5]Blaisdell, Frank Ellsworth, Jr.	San Fran.	Med. gr.	1520 Lake, SF-sf
A. B., Stanford, 1919			
Blakeslee, Edwin Mitchell	Savannah,Mo.	M. E.	204 Encina
[4]Blankenship, Albert S.	Commerce, Tex.	Educ. gr.	Theta Xi
B. S., Texas, 1904; A. M., Columbia, 1918			
[12]Blewett, Frances	Palo Alto	Econ.	737 Bryant-p
[23]Blinks, Lawrence R.	Kalamazoo, Mich.	Bot.	359 Encina
[23]Blinks,Wm.Nathaniel	Kalamazoo,Mich.	Econ.	308 Encina
Blood, Richard Edson	Chicago, Ill.	Engl.	Sigma Nu
[5]Blote, Hal Carl	Oakland	Phil.	Los Altos
[4]Blount, S. Mildred	Lacona, N. Y.	Bact. gr.	166 Roble
A. B., Syracuse, 1912, A. M., 1918			
[5]Blücher, Ossie	Sacramento	Law	Phi Kappa Sigma
Blumberg, Harry Edward	San Diego	Econ.	447 Encina
[4]Blumenthal, Maurice	Bisbee, Ariz.	Law gr.	138 Encina
A. B., Stanford, 1916			
[1]Bly, Frederick J.	Red Bluff	Phyl.	25 Salvatierra
Blythe, Lysle Leora	Palo Alto	Engl.	381 Channing-p
Bocks, Lester Edwin	Cupertino	Econ.	400 Encina
[12]Bocks, Marion Elise	Cupertino	Ed. G. A. gr.	Cupertino-c
A. B., Stanford, 1918			
[5]Boekel, William Albert	Rathdrum, Ida.	Law gr.	Beta Theta Pi
A. B., Idaho, 1917			
Boezinger, Humbert Arthur	Palo Alto	Geol.	176 Bryant-p
Boezinger, Olivia	Palo Alto	Econ.	176 Bryant-p
Bolger, James A.	San Diego	Econ.	444 Encina

[23]Bonar, Perry Arthur	Santa Rosa	Chem.	54 Sequoia
Bonhard, Florence M.	Los Angeles	Fr.	244 Roble
[5]Bonney, Fred Laman	Seattle, Wn.	Law	Kappa Sigma
[1]Bonnot, Paul	Los Angeles	Zool.	362 Encina
Bontz, Ethel Florence Mary	Palo Alto	Engl.	820 Cowper-p
[13]Booksin, Jeannette Louise	Campbell	Engl.	454 Homer-p
Booth, Edwin Spencer	Roseburg, Ore.	Hist.	Kingscote
Borba, Harry James	Sebastopol	Engl.	530 Encina
[1]Boring, Ruth	New York, N. Y.	Bact. gr.	Kingscote
A. B., Vassar, 1918			
Borland, Norman Burns	Martinez	Law. gr.	116 Encina
A. B., Stanford, 1918			
Bormose, Ruth Teresa	Compton	Fr.	374 Roble
Borncamp, Frederick Foster	Glendale	Educ. gr.	90 Sequoia
B. S., Northwestern, 1919; A. M., Stanford, 1920			
[5]Borthwick, Harry Alfred	Campbell	Bot.	667 Channing-p
Bothwell, Floyd Bishop	SaltLakeCity,U.	Geol.	Phi Kappa Sigma
A. B., Stanford, 1920			
Bothwell, Muriel Joy	San Jose	Econ.	256 Roble
Boucher, O. Jack	Oroville	Econ.	Theta Delta Chi
[12]Boucher, William Robert	Oroville	Hist.	Theta Delta Chi
[1]Boudreaux, Ray H.	Klamath Falls, Ore.	Geol.	451 Encina
[1]Boughn, Margaret Irene	Riverside	Engl.	380 Roble
[234]Boulware, George Lynn	Palo Alto	Geol.	170 Bryant-p
[12]Bourns, Richard Thomas, Jr.	Elk	C. E.	718 Bryant-p
Bowden, Jerome Trimble	San Jose	Law	Delta Upsilon
[1]Bowden, William Burt	Seattle, Wn.	Econ.	605 Gilman-p
Bowen, Theodore E.	Twin Falls, Ida.	Hist.	444 Encina
Bowes, Chester Adrian	Alameda	M. E.	433 Encina
Bowes, Glenn Howard	Monrovia	Geol.	221 Encina
Bowles, Thomas Kirby	Elgin, Ill.	M. E.	Zeta Psi
[3]Boyce, W. Scott	Los Angeles	Chem. gr.	526 Encina
A. B., Wake Forest, 1903; A. M., Chicago, 1907; Ph. D., Columbia, 1917			
[2]Boyd, Hugh Thomas	Spreckels	Engl. gr.	Alpha Sigma Phi
A. B., Stanford, 1919			
Boyd, Robert Tilford	Harlowton, Mont.	Phyl.	107 Encina
[5]Boyle, Darl MacLeod	Denver, Colo.	Engl.	Alpha Tau Omega
[1]Boyle, James Thomson	Los Angeles	Phil.	Delta Upsilon
Boys, Mason Bowden	Independence,Kan.	Econ.	Phi Gamma Delta
A. B., Stanford, 1920			
[1]Braddock, John Taylor,Jr.	Puyallup,Wn.	Ed. G. A.	28 Sequoia
Bradshaw, Roch William	Orange	Econ.	125 Encina

[4]Bradshaw, Wm. Lawrence	Sacramento	Econ. sp.	44 Encina
[12]Brady, Lawrence William	Sanborn, Ia.	Econ.-Law	46 Encina
Bramkamp, Paul Jay	San Jose	M. E.	281 S. 11, SJ-sj
[1]Brandt, Robert Louis	San Mateo	Chem.	Kappa Alpha
[1]Braunschweiger, Edward F.	San Fran.	Econ.	Sigma Chi
Brazil, Abraham Hagberg	Castroville	Hist.	34 Sequoia
Brazil, Anthony Hagberg	Castroville	Econ.	34 Sequoia
Brazil, Waldemar Hagberg	Castroville	M. E.	34 Sequoia
Breer, Louis Carl	Los Angeles	Chem.	Sigma Chi
Breier, Claus John, Jr.	Lewiston, Ida.	Hist.-Law	66 Sequoia
[5]Brewer, Edward W., Jr.	Boston, Mass.	Law gr.	270 Kellogg-p
A. B., Harvard, 1914			
[5]Brewer, Percy Osborne	San Francisco	Econ.	Theta Delta Chi
[12]Brickey, Edward Marvin	Palo Alto	M. E.	345 Hamilton-p
Briesen, Hans	San Francisco	Chem.	Alpha Delta Phi
[4]Briggs, Alexander Woodland	Palo Alto	Hist.	249 Lowell-p
[1]Briggs, John Stuart	Portland, Ore.	Geol.	57 Encina
Briggs, Otis Emmons	Mountain View	Geol. gr.	R.F.D. 379a, MV-mv
A. B., Stanford, 1917, A. M., 1920			
Briggs, Samuel Eustace	Pasadena	Chem.	501 Encina
A. B., Stanford, 1920.			
Brill, Selling	Portland, Ore.	Med. gr.	Theta Xi
A. B., Stanford, 1920			
Brinkman, Newton	Watsonville	Econ.	33 Sequoia
[124]Brinkmann, Heinrich Wilh'm	Riverside	Math.	365 Channing
Briscoe Laverne Wagner	San Jose	Econ.	339 Spencer, SJ-sj
[13]Brod, Harry Albert	Creston	Chem. gr.	257 University-p
A. B., Stanford, 1919			
[1]Broock, Ferdinand Max	Detroit, Mich.	Econ.	Phi Kappa Sigma
[23]Brooke, James Kenneth	Portland, Ore.	Geol.	61 Sequoia
Brooking, Olive Anthonette	San Fran.	Engl.	Delta Delta Delta
Brooks, Ruth	Madera	Econ.-Law	Pi Beta Phi
[23]Brooks, Sterling W.	San Francisco	C. E. sp.	301 Encina
Broughton, Beatrice	Oxnard	Fr.	172 Roble
[12]Brower, William Miller	Seattle, Wn.	M. E.	408 Encina
Brown, Charles Milton, Jr.	Redlands	Hist.	14 Salvatierra
[5]Brown, Elizabeth	San Mateo	Econ.	Chi Omega
Brown, Evelyn Frances	Alameda	Econ.	335 Roble
[12]Brown, Evelyn Gladys	Palo Alto	Span.	335 Webster-p
Brown, Everett	Eureka	Econ.	48 Sequoia
[13]Brown, Franklin Alvy	Newark	M. E.	35 Sequoia
[5]Brown, George Dewey	Berkeley	Phyl.	628 Cowper-p
[3]Brown, Gilbert Hale	Honolulu, T. H.	Econ. sp.	31 Sequoia

Brown, Grace Mary	Aurora, Ill.	Engl.	162 Roble
[5]Brown, Harold Austin	Fresno	Geol.	Phi Delta Theta
Brown, Homer Waldo	Petaluma	Econ.	17 Encina
Brown, Kenneth William	Los Angeles	Chem.	Alpha Tau Omega
[12]Brown, Leland Hermon	Gilroy	M. E.	307 Encina
[4]Brown, Lillian Harrison	Sacramento	Engl.	Madroño
Brown, Margaret Wallace A. B., Stanford, 1920.	San Diego	Econ.	Gamma Phi Beta
[12]Brown, Marian Frances	Los Angeles	Bact.	Delta Delta Delta
[12]Brown, Mary Ethel A. B., Stanford, 1920.	Porterville	Hist.	Sigma Kappa
Brown, MerwynHarold	Winnem'ca, Nev.	Econ.	21 Sequoia
Brown, Spencer Dodge	Pasadena	Econ.	Alpha Sigma Phi
Brown, Warren Edward	San Mateo	Econ.	Sigma Chi
Brown, William Howard	San Diego	Econ.	Phi Delta Theta
[1]Browne, Gustavus Richard A.	Los Altos	Econ.	Los Altos-la
[1]Browning, Kenneth W.	SaltLakeCity, U.	M. E. sp.	87 Sequoia
[1]Bruce, LeslieCombs, Jr.	Greenwich, Conn.	Econ. sp.	925 Waverley-p
[5]Brust, Paul Raymond	San Diego	Pre-Clin.	11 Salvatierra
[5]Bryan, Carleton Felton	San Francisco	Law	Sigma Alpha Epsilon
[1]Bryan, Darwin	Suisun	Geol.	Phi Kappa Psi
[5]Bryant, Floyd Sherman B. A., Oxford, 1916	Sparks, Nev.	Law gr.	Sigma Alpha Epsilon
Bryant, Marjorie Stowell	San Jose	Econ.	251 Roble
Bryce, Gertrude Amy	Victoria, B. C.	Hist.	157 Roble
Buckham, Stafford	Los Angeles	Econ.	124 Encina
Bucklin, JamesW., Jr. A. B., Stanford, 1920.	GrandJunction, Col.	Law	327 Everett-p
[12]Buechler, Mark Albert	Kulm, N. D.	Law	832 Kipling-p
Buffum, Dorothy May	Long Beach	Hist.	Pi Beta Phi
Bulkley, Milton	Oakland	M. E.	Alpha Delta Phi
[5]Bullis, Richard Omri A. B., Stanford, 1918	Los Angeles	Med. gr.	2105 Pine, SF-sf
Bumbaugh, Harold L.	San Diego	M. E.	Phi Kappa Psi
Bundick, Susie Pearl	Jennings, La.	Engl.	234 Roble
Bunds, Clifford Courtney A. B., Stanford, 1920.	Santa Clara	Chem.	353 Encina
Bunds, Lester Archie A. B., Stanford, 1920.	Santa Clara	Chem.	353 Encina
Bundy, Douglas	Los Angeles	Geol.	Delta Kappa Epsilon
Bundy, Robert Gillis	Los Angeles	Econ.	Delta Kappa Epsilon
[4]Bunting, Helen Masters	Bryn Mawr, Pa.	Phyl.	Madroño
[1]Burbank, Eleanor	San Francisco	PreN.	149 Roble

Burbridge, Charles Clair	Tracy	Geol.	208 Encina
Burch, George W., Jr.	Owensmouth	Hist.-Law	250 Encina
[4]Burch, Joseph Earl A. B., Wyoming, 1916	Kemmerer, Wyo.	Educ. gr.	Sigma Chi
Burdick, Donald Lowe	San Jose	Econ.	228 No. 10, SJ-sj
[5]Burford, Ruby Jeanette	Macomb, Ill.	Educ.	314 Roble
[12]Burgess, Charles Waldo	Anaheim	M. E.	Theta Delta Chi
[5]Burke, Donald Vincent	Palo Alto	Zool.-Med.	179 University-p
Burke, Dorothy Lilian	Monett, Mo.	Ent.	527 Homer-p
[5]Burke, Edmund Francis	Santa Barbara	Engl.	201 Waverley-p
Burke, Helen M. A. B., Stanford, 1920	Los Angeles	Fr.	Alpha Phi
Burkhard, William George	SanFrancisco	Phyl.	112 Encina
Burntrager, Helen	Hollywood	Econ.	182 Roble
[23]Burrill,Wm.Vermilye,Jr.	Tacoma, Wn.	Chem.	Zeta Psi
[5]Burrows, Gates Wilson	Montebello	Econ.	Phi Kappa Sigma
Burton, Alan William	Los Angeles	M. E.	Zeta Psi
[5]Burton, Margaret Florence	Los Angeles	Hist.	Gamma Phi Beta
Bush, Loren Smith	Boise, Ida.	M. E.	53 Sequoia
Butler, Edward William	San Diego	M. E.	57 Sequoia
Butt, Dale Joseph	Newberg, Ore.	Phyl.-Med.	Phi Delta Theta
Byl, Donald Hennegen	San Jose	M. E.	205 Encina
[1]Bynum, Lindley Davis	Hollywood	Greek	426 Encina
[1]Byrne, Edward, Jr.	Delano	Econ.	450 Encina
Cadle, Austin	Sacramento	Geol.	Phi Kappa Psi
[5]Cady, Loris Vaughn A. B., Stanford, 1920	Los Altos	Law gr.	Los Altos-la
[4]Cady, Vernon Mosher	Chico	Educ.	Sigma Alpha Epsilon
Cahen, Robert Paul	Palo Alto	Hist.	27 Encina
Cahn, Monroe Leopold A. B., Stanford, 1920	San Francisco	Econ.	423 Encina
Cain, Brighton Clark	Salt Lake City, U.	Ent.	106 Encina
[23]Caldwell, David Lynam	San Mateo	Geol.	152 Ellsworth, SM-sm
[4]Caldwell, Hildreth Mosher A. B., California, 1920	Berkeley	Med. gr.	Santa Cruz Rd.
Calhoun, Ellen Mein A. B., Stanford, 1920	Seattle, Wn.	Engl.	Kappa Alpha Theta
[12]Calkins, Lorna Ruth A. B., University of Southern California, 1919	Los Angeles	Educ. gr.	307 Roble
Cameron, Donaldine	San Francisco	Fr.	223 Roble
[3]Campbell, Floyd Paul	Portland, Ore.	PreL.	Kappa Sigma
[12]Campbell, Howard Franklin	Modesto	Geol.	419 Encina
Campbell, Mary Edna	Escalon	Span.	252 Roble

Campbell, Ralph Deidrich	San Jose	Hist.	Alpha Tau Omega
Caneer, Fernando	Montebello	Econ.	Alpha Sigma Phi
Cannon, Louise Amidon	Palo Alto	Fr.	301 Addison-p
[4]Cape, Thomas Wilson	Madison, Wis.	Educ. gr.	Campus
A. B., Wisconsin, 1920			
Cappa, Victor Emanuel	San Jose	Pol. S.	36 Sequoia
[4]Capper, Harry Walter	Winchester, Va.	Chem. gr.	106 Encina
B. S., Nevada, 1920			
[1]Carballo, Ernesto Jalandoni	Iloilo, P. I.	Phyl.	29 Salvatierra
Carbaugh, Phyllis Maud	Palo Alto	Engl. gr.	706 Cowper-p
A. B., Vassar, 1917			
Carbonell, Francisco K.	Union, P. I.	Geol.	2 Cabrillo
[1]Card, John Lockhart, Jr.	Palo Alto	Geol.	764 Channing-p
[1]Card, Marjorie Frederica	Palo Alto	Phyl.	966 Addison-p
Carlisle, Charles Frederick	Chicago, Ill.	Econ.	Sigma Alpha Epsilon
Carlisle, Thelma	Los Angeles	Engl.	Gamma Phi Beta
A. B., Stanford, 1920			
Carlsmith, Leonard Eldon	Hilo, T. H.	Chem.	336 Encina
Carlsmith, Margaret Estelle	Hilo, T. H.	Phyl.	184 Roble
[13]Carlson, Everett	Berkeley	Phyl.-Med.	12 Sequoia
A. B., Stanford, 1920			
Carlson, Osborn Herman	Kingsburg	C. E.	415 Encina
Carman, Helen Amesbury	San Jose	Hist.	Roble
[234]Carmichael, David Burton	Orange	Econ.	502 Encina
[12]Carney, John Martz	Springdale, Mont.	Econ.	62 Sequoia
[5]Carpenter, Cyrus Clay, Jr.	Palo Alto	Hist.	1125 Ramona-p
Carpenter, Perry William	Los Angeles	Econ.	Delta Upsilon
Carrey, Albert Adolph, Jr.	Gilroy	Geol.	307 Encina
Carroll, Daniel Brendan	Concord, Aust'lia	Geol. gr.	Sigma Alpha Epsilon
A. B., Stanford, 1920			
[1]Carroll, Edwin Hurlbut	Portland, Ore.	Engl.	Delta Tau Delta
[1]Carroon, Frank	E. Las Vegas, N. M.	Educ. gr.	22 Lasuen
A. B., Indiana, 1902; A. M., De Pauw, 1913			
Carskadon, Harry R.	Keyser, W. Va.	Econ.	Kingscote
[23]Carskadon, Thos. Reyn'lds	Keyser, W. Va.	Engl.	Kingscote
Carson, Carlton Mann	Stanford Univ.	Geol.	Kingscote
[34]Carter, Harley Roswell	Berkeley	M. E. sp.	31 Sequoia
Carter, Rae Best	Modesto	Law	481 Lytton-p
[12]Carter, Thomas Wilburn	Twin Falls, Ida.	Econ.	450 Encina
[5]Carter, William Sandow	Cuba, Mo.	Econ.	1431 Waverley-p
Carver, Leroy Langhenry	Los Angeles	Econ.	Delta Upsilon
Carver, Ralph Langhenry	Los Angeles	Law	Delta Upsilon
Carver, Roy William	Artesia	Econ. sp.	21 Sequoia

Cary, James Alison	Mandan, N. D.	Law	Theta Xi
Cary, William Sayre	Mandan, N. D.	Chem.	Theta Xi
[234]Cascaden, Wm. Wilfred	Phila., Pa.	Educ.	137 Encina
[4]Casey, Raymond William	San Jose	Educ.	442 S. 8th, SJ-sj
Castleman, Gordon L.	Salt Lake City, U.	Geol.	Phi Kappa Sigma
Castleman, Paul Roy	San Jose	Engl.	610 Spencer, SJ-sj
[5]Casto, Isabel Bottler	Palo Alto	Math. gr.	847 Bryant-p
A. B., Stanford, 1920			
Caughey, Beatrice	Ukiah	Econ.	Chi Omega
Caughey, Edgar Reginald	Ukiah	Law	113 Encina
[34]Cavanaugh, Wm. Joseph	Hillsborough	Geol.	406 Encina
[34]Cavender, Alexander C.	CollegeTerrace	Geol. sp.	Bowdoin&Lincoln-M
Cecil, Calvert Lee	Grimes	Hist.	81 Sequoia
Cerruti, Edvidge Mary	Los Gatos	Span.	Roble
Chace, Katherine Goldie	Wayne, Neb.	Psych. gr.	Alpha Omicron Pi
A. B., Pomona, 1919			
[4]Chance, Clifford W. D.	Bisbee, Ariz.	Educ. gr.	543 Byron
B. S., Ohio University, 1913			
Chamberlain, Marvin G.	SaltLakeCity,U.	Engl.	Kappa Alpha
Chambers, George Robert, Jr.	Oakland	Econ.	El Camino
A. B., Stanford, 1920			
[1]Champion, Joseph Homer	Colton	Engl.	Alexandria Hotel
[12]Chan, Clarence Kuhn	San Francisco	C. E.	4 Salvatierra
A. B., Stanford, 1920			
[5]Chan, Gumdock	San Francisco	Chem.	405 Emerson-p
[5]Chandler, Henry Arwin	San Diego	Geol.	Phi Delta Theta
Chandler, Loren Roscoe	Fresno	Med. gr.	Zeta Psi
A. B., Stanford, 1920			
Chandler, Norman	Los Angeles	Econ.	Delta Kappa Epsilon
[5]Chaney, Norman B.	Phoenix, Ariz.	Econ.	554 Encina
[12]Chappelear, Monroe	Los Angeles	E. E. gr.	26 Sequoia
A. B., Stanford, 1920			
[1]Chappell, Claude Carl	Delano	Geol.	121 Encina
Charles, Shirley Weston	Palo Alto	Fr.	251 Lincoln-p
Charlot, Leon Elliot	Alameda	Geol.	Theta Xi
[1]Chase, Frank Forrester	Los Angeles	Law	Sigma Alpha Epsilon
Chase, Jessie M.	Los Angeles	Educ. gr.	100 Roble
A. B., Stanford 1919			
Chase, Mary Katherine	Palo Alto	Econ.	Clinic House
[23]Chase, Richard	San Diego	Econ.	426 Encina
[4]Chase, Susan Frances	Buffalo, N. Y.	Educ. gr.	159 Roble
B. L., Wisconsin, 1897; Ph. D., Buffalo, 1898.			
[1]Chavez, David Julian	Socorro, N. M.	Educ.	31 Encina

[4]Chelli, Ercole Lorenzini	San Rafael	Chem.	109 Encina
[3]Chen, Bih Lim	Swatow, China	Chem.	4 Salvatierra
Chevalier, Haakan Maurice	Berkeley	Engl.	10 Sequoia
[12]Chevalier, Ragnhild Marguerite	Berkeley	Fr.	117 Roble
[5]Chew, Sam	Oakland	Bact.	405 Emerson-p
[5]Chilcote, Russell Cooper	Fostoria, Ohio	Phyl.	Phi Delta Theta
[5]Childers, Leland Alonzo	Santa Cruz	Zool.	206 Encina
[4]Chisholm, Albert George	San Francisco	Chem.	Pacific Grove-pg
Chrisman, Herman Henry	San Jose	Hist.	206 Encina
Christie, Howard Chandler	Los Angeles	Econ.	Delta Kappa Epsilon
von Christierson, Frank F.	San Jose	Econ.	183 Acacia, SJ-sj
[5]von Christierson, Sigurd	San Jose	Med. gr.	2105 Pine, SF-sf
A. B., Stanford, 1917			
Chuck, Ah Fong	Honolulu, T. H.	Econ.	1401 Emerson
[1]Church, Thomas Bruce	Salinas	Econ.	416 Encina
Churchman, Hazel Vera	Santa Rosa	Zool.	173 Roble
[12]Chute, George Roger	Two Rivers, Wn.	Econ.	88 Sequoia
Clancy, Marion Alice	Riverside	Econ.	Pi Beta Phi
[1]Clancy, Patrick Joseph	San Francisco	Law	358 Homer-p
Clark, Donald Francis	Stanford Univ.	Econ.	7 Alvarado
A. B., Stanford, 1920			
Clark, Dorothea Miller	Los Angeles	Ed. G. A.	Chi Omega
[5]Clark, Egbert Bailey, Jr.	Upland	Educ. gr.	Menlo Park-mp
A. B., Stanford, 1920			
Clark, Esther Bridgman	Stanford Univ.	Zool.	4 Cabrillo
[12]Clark, Floy William	Boise, Ida.	Bot.	349 Encina
Clark, George Dickson	Menlo Park	C. E.	Menlo Park-mp
[124]Clark, George Harold	Ida Grove, Ia.	Law	634 Hamilton-p
Clark, George Stuart	Stanford Univ.	M. E.	7 Alvarado
Clark, Howard Marshall	Ashland, Ohio	Econ.	Phi Delta Theta
[5]Clark, Mary Jane	Los Angeles	Engl.	Kappa Alpha Theta
[1]Clark, Newton Mabee, Jr.	Hood River, Ore.	M. E.	355 Encina
[4]Clark, Olive Eloise	Pasadena	Chem. gr.	Madroño
A. B., Yankton, 1900			
Clark, Philip Corriston	Stanford Univ.	M. E.	7 Alvarado
[5]Clark, Wilfred Sterling	Palo Alto	Chem.-Med.	345 Fulton
[134]Clarke, Bonita Fravel	San Jose	Hist.	Box 543, SJ-sj
Classen, Willard John	Menlo Park	Geol.	Menlo Park
Cleaveland, Norman	Berkeley	M. E.	Sigma Chi
[24]Clement, Evelyn Atkinson	Calistoga	Latin gr.	459 Hamilton-p
A. B., College of the Pacific, 1909			
[124]Clifford, Connell	Kewanee, Ill.	Econ.	Sigma Nu

[23]Clinch, Glenn Wilmer	Quincy	M. E.	344 Encina
Cloney, Miles Joseph	Eureka	Phyl.	207 Encina
[12]Close, Chester Davis	Stockton	Econ.	Sigma Alpha Epsilon
Cloud, George Hurach	Fresno	Hist. gr.	3 Sequoia
A. B., Stanford, 1919			
Clunie, Helen	Menlo Park	Engl.	Menlo Park-p
[5]Clyde, Paul Hibbert	Victoria, B. C.	Hist.	546 Encina
Coakley, Clyde Edward	Spokane, Wn.	C. E.	89 Sequoia
Coakley, James Francis	Oakland	Law	Delta Chi
[5]Coates, Eldred Arthur	Oakland	Geol.	401 Encina
[5]Coblentz, Herbert Cerf	Stockton	Econ.-Law	40 Encina
[4]Coburn, Adelaide March	Mayfield	Engl. gr.	College Terrace-m
A. B., College of the Pacific, 1918			
[5]Cody, Bernard Anthony	Long Beach	Phyl.	420 Encina
Coe, Harry Carson	Selma	Med. gr.	2317 Sac'to, SF-sf
A. B., Stanford, 1916			
Coffin, Thelma Ruth	Reno, Nev.	Psych.	Delta Delta Delta
A. B., Stanford, 1920			
[4]Cogswell, Mary Kathleen	Los Angeles	Ed. G. A.	224 Roble
[5]Cohen, Aaron Norman	Portland, Ore.	Law sp.	445 Encina
Cohen, Mark Madison	Portland, Ore.	Hist.	445 Encina
[12]Cohn, Charles Suskin	Portland, Ore.	Law	534 Encina
LL.B., Stanford, 1920			
Cohn, Dave Solis	Spokane, Wn.	Geol.	427 Encina
[4]Colby, Clinton Hardin	San Francisco	Pre-Clin.	112 Encina
Cole, Frank Raymond	Redlands	Ent. gr.	361 Channing-p
A. B., Pomona, 1913			
Coles, George Raymond	San Jose	Chem.	80 So. 11, SJ-sj
[5]Coll, Daniel	Reno, Nev.	Med.gr.	RosecourtApts.,SF-sf
A. B., Stanford, 1920			
[4]Colley, William L.	Redlands	Educ.	56 Encina
[1]Collins, Clare Bradford	Stanford Univ.	Econ.	Roble
[5]Collins, Erle LeRoy	Stanford Univ.	Chem.	226 Encina
[234]Collins, George Ainslie	Portland, Ore.	Chem.	Zeta Psi
Colton, John Henry	Bakersfield	C. E.	204 Encina
[5]Coman, James Lindley	Phoenix, Ariz.	Chem.	Theta Xi
[4]Coman, William Meriam	Palo Alto	Educ.	707 Addison-p
[12]Compton, Anita Margaret	Palo Alto	Ed. G. A.	437 Bryant-p
[1]Compton, Robert Howard	Palo Alto	Econ.	437 Bryant-p
[4]Comstock, Hazel Dell	San Jose	Educ.	702 Santa Clara, SJ-sj
Comstock, William Sears	Alhambra	C. E.	Zeta Psi
Conard, Fidelia Elizabeth	San Diego	Fr.	Pi Beta Phi
A. B., Stanford, 1920			

Conard, Harold Shaver	San Diego	C. E.	Delta Chi
[5]Condee, Newcomb	Los Angeles	Law gr.	324 Encina
A. B., Stanford, 1919			
Condit, William Clyde	Oakland	Hist.	355 Encina
[12]Connelly, Charles H.	GoodSprings,Nev.	Geol.	232 Encina
Connolly, Robert Cottman	Palo Alto	M. E.	13 Encina
[5]Connolly, Washington Lewis	Palo Alto	Econ.	13 Encina
[4]Connor, Jay Davis	San Jose	Educ.	338 N. 13th, SJ-sj
[23]Conwill, Fred Franklin	Optima, Okla.	Econ.	25 Sequoia
[4]Cook, Adella	San Jose	Chem. gr.	441 S. 2d, SJ-sj
B. S., California, 1908			
[1]Cook, Charles Franklin	Long Beach	Law gr.	11 Salvatierra
A. B., Stanford, 1916, J. D., 1920			
[4]Cook, E. Gertrude	San Jose	Engl. gr.	441 S. 2d, SJ-sj
B. L., California, 1903			
[4]Cooke, John Daniel	Pullman, Wn.	Engl. gr.	310 Waverley-p
A. B., Stanford, 1914.			
[5]Cooke, William Clifford	Palo Alto	Chem.	310 Waverley-p
†Cooksey, Randle A.	Corsicana, Texas	Econ.	209 Encina
[5]Coonse, George Kenneth	Yakima, Wn.	Chem. gr.	DeltaKappaEpsilon
A. B., Stanford, 1920			
Cooper, Frances Lenore	San Diego	Engl.	Roble
[12]Cooper, Harold John	San Diego	Med. gr.	2105 Pine, SF-sf
A. B., Stanford, 1917			
[5]Cooper, Ralph Waldo	Long Beach	Econ.	969 University-p
Copeland, Herbert Faulkner	Chico	Bot.	415 Lytton
Copeland, Ivo	Los Angeles	Engl.	304 Roble
Coplen, John Wiley	Globe, Ariz.	Econ.	Delta Chi
[5]Copley, Ralph David	Valley Springs	Geol.	222 Encina
[5]Corby, Grant White	Los Angeles	M. E.	Alpha Tau Omega
Corey, Pearl Johnson	Palo Alto	Engl.	909 University-p
A. B., Stanford, 1920			
Cornell, Elton Fred	Sunnyvale	Chem.	Sunnyvale-s
Cornell, Mildred Verele	Sunnyvale	Engl.	Sunnyvale-s
Cornes, Mary Lida	San Jose	Lat.	147 E. Julian, SJ-sj
Cornish, Herbert Jas., Jr.	Denver, Colo.	Econ.	Delta Upsilon
[1]Cosby, Mark Barrett	Los Angeles	Hist.	129 Encina
[12]Cota, Florencio M.	Jerome, Ariz.	M. E.	316 Encina
Cottrell, Clifton Carlyle	San Jose	Law gr.	338 Encina
A. B., Stanford, 1920			
[4]Cotzias, Alexander	Santa Barbara	Chem.	50 Encina
Covey, Frederick Arthur	Friend, Ore.	M. E.	85 Sequoia
Cowan, Clarence Bert	Fresno	Med. gr.	2869 Clay, SF-sf
A. B., Stanford, 1919			

† Deceased, January 17, 1920.

Cowell, Ray Theodore	Mt. Vernon, Wn.	Hist.	224 Encina
Cowgill, Frank Hubert	Los Angeles	Econ.	Alpha Sigma Phi
[5]Cowing, Ralph Huffaker	Carson City, Nev.	Econ.	Chi Psi
[5]Cox, Albert Brooks A. B., Stanford, 1909	Palo Alto	Law gr.	1227 Byron
Cox, A. Bascom	San Antonio, Texas	M.E.	Hotel Palo Alto-p
[234]Coyle, Daniel Kenneth	San Jose	M. E. sp.	P.G.&E., MV-mv
Crabtree, Harriet Gregory A. B., Stanford, 1920	San Diego	Hist.	Pi Beta Phi
[4]Craig, Geo. Edward	Cheney, Wn.	Educ.	356 Addison-p
[12]Craig, Harold Carter	Willows	M. E.	1335 Cowper
Craig, Harold Edward A. B., Stanford, 1920	Cheney, Wn.	Econ.	Alpha Sigma Phi
Craig, Isabel Ann	Gridley	Engl.	212 Roble
Craig, Joseph Allen	Sacramento	Phyl.	410 Encina
Craig, Wallace Alex.	Great Falls, Mont.	Chem.	Alpha Sigma Phi
Cramer, Dorothy	Palo Alto	Econ.	675 Channing-p
[5]Crane, William Whitfield A. B., Stanford, 1917	Oakland	Med.gr.	2317 Sacram'to, SF-sf
Cranson, Lorin Alvin	Sebastopol	Geol.	216 Encina
Cravens, Robert I.	Los Angeles	Econ.	Zeta Psi
[12]Crawford, Alonzo Lawson	Escondido	Law	409 Encina
Creglow, Loran Andrew	Palo Alto	Geol.	Phi Kappa Sigma
Crever, Dorothy Rose	San Jose	Math.	14 Broadway, SJ-sj
Criss, Vernon Eslie	Fields Landing	M. E.	353 Encina
[5]Crobaugh, Clyde Julian	San Jose	Econ.	66 Stockton, SJ-sj
Crobaugh, Mervyn A. B., Stanford, 1919	San Jose	Econ. gr.	66 Stockton, SJ-sj
[3]Crocker, Percy Summers A. B., Stanford, 1920	Selma	Geol.	225 Encina
[1]Cronenwett, Fred McCall A. B., Stanford, 1920	Monrovia	Econ.	249 Encina
[4]Cronin, Mary Alice	San Jose	Educ.	206 Roble
[5]Crosby, Carlisle Cameron A. B., Stanford, 1920	Hayward	Law gr.	Kappa Sigma
Crosby, Katherine Lee	Hayward	Econ.	Pi Beta Phi
[5]Cross, Robert John A. B Stanford, 1911, A. M., 1920	Mayfield	Chem.gr.	Evergreen P'k, M-m
[12]Crouch, Kenneth Wilfred A. B., Stanford, 1920	Santa Ana	C. E.	Theta Xi
Crouser, Clarence Francis	San Jose	Econ.	215 Delmas, SJ-sj
Crowe, Earle Edward	Porterville	Econ.	Delta Tau Delta
Crowe, Harold Enos A. B., Stanford, 1917	Long Beach	Med. gr.	2105 Pine, SF-sf

Crowe, Mary Eva Wood	Tulare	Hist.	203 Roble
[5]Cuddy, John Martin	Tonopah, Nev.	Hist.-Law	Alexandria Hotel
Culp, Crozier Cordell	Coeur d'Alene,Ida.	Law	247 Encina
[5]Culver, Esther Miriam	Lindsay	Engl.	273 Roble
[5]Cumming, Joseph Allen	Nogales, Ariz.	Econ.	Phi Kappa Psi
[4]Cummings, Adda May	Trenton, Tenn.	Educ. gr.	205 Roble
A. B., George Peabody, 1916			
[4]Cummings, Mary Blanche	Fresno	Educ.	707 Bryant
Cundall, Kenneth Newton	Alameda	Chem.	120 Encina
Cundall, Roland Lewis	Alameda	Chem.	120 Encina
Cunha, Marion Buckley	San Francisco	Econ.	Alpha Delta Phi
[5]Cunningham, McDowell	Cupertino	Econ.	Cupertino-c
Cupid, Albert William	San Jose	Econ.	527 Encina
[5]Curler, Ben Vogel	Elko, Nev.	Law. gr.	634 Hamilton p
A. B., Stanford, 1919			
Curtice, Aubrey Arthur	Spokane, Wn.	Min. gr.	Delta Upsilon
A. B., Stanford, 1920			
[5]Curtis, Eugene Alden	Rochester, N. Y.	Econ.	Theta Delta Chi
Curtis, Rowen Doust	Mt. Hamilton	Chem.	62 Encina
Cuthbertson, Grace Pearl	Mill Valley	Econ.	638 Channing-p
Cutler, Herbert Holley	Los Angeles	Geol.	616 Forest-p
Cutler, Horace Willard	Pasadena	Econ.	El Camino
A. B., Stanford, 1920			
[5]Dains, Ivores Roy	Redwood City	Law gr.	411 Bradford, RC-rc
A. B., Stanford, 1920			
[12]Dake, Irving Chittenden	Santa Cruz	M. E.	327 Encina
Dale, Helen Lois	Palo Alto	Bot.	1022 Forest Court-p
Daley, Helen Hunt	Cheyenne, Wyo.	Engl.	634 Hamilton-p
Dallas, Donald A.	Bryn Mawr	Zool.	455 Forest-p
[1]Dalzell, Irene Taylor	Menlo Heights	Econ.	Menlo Heights
[12]Daniells, Alva A.	Lindsay	Econ.	Theta Xi
A. B., Stanford, 1920			
[23]Darke, Fred'k Eugene	San Luis Obispo	Econ.	109 Encina
[124]Darling,HerbertH.,Jr.	Brookline,Mass.	Phyl.	Alpha Delta Phi
Darlington, Thomas D.	Jerome, Ida.	C. E.	326 Encina
Darrah, Guard Clement	Lodi	Law	19 Encina
A. B., Stanford, 1920			
Davidson, Donald Neal	Boise, Ida.	Econ.	Sigma Chi
Davies, James M.	Los Angeles	Geol.	Delta Kappa Epsilon
Davis, Cachot Stephen	San Francisco	Econ.	Phi Kappa Psi
[14]Davis, Corinne	Lindsay	Educ. gr.	And'son Apts.,SJ-sj
A. B., Stanford, 1919, A. M., 1919			
[4]Davis, Dorcas Anna	Brooklyn, N. Y.	Engl. gr.	222 Roble

Davis, Eugene Lewyn	Santa Maria	Geol.	431 Encina
[1]Davis, Frank Shepherd	Runnymede	Phyl.	R. D. 1, Box 75, MP-mp
Davis, Geneva Katharine	Liberty, Mo.	Engl. gr.	Madroño
A. B., Missouri, 1917; A. M., Stanford, 1920			
Davis, George Erwin Wm.	Berkeley	Law	Sigma Alpha Epsilon
[5]Davis, Gordon Arthur	Carmel	Engl. gr.	Alpha Delta Phi
A. B., Stanford, 1920			
Davis, Herbert Adlington	Burley, Ida.	Law	233 Encina
Davis, Hester Ruth	Palo Alto	Bot.	526 Forest-p
[1]Davis, Lawrence Clifford	Santa Maria	C. E.	218 Encina
[12]Davis, Marcellus Phillip	Ellensburg, Wn.	M. E.	Cowper Court-p
Davis, Ruth Temple	Burley, Ida.	Hist.	221 Roble
[5]Davis, Samuel Keith	Santa Ana	Pol. S.	Delta Chi
Davis, Vesta Irene	San Jose	Engl.	17 Salvatierra
Davis, Victor DeWitt	Mountain View	M. E.	216 High-p
[5]Davis, Wallace Merle	Portland, Ore.	Hist.	Sigma Chi
[5]Davis, Winthrop Woodworth	Oakland	Pol. S.	408 Encina
Davison, Maynard Pomeroy	Honolulu	Geol.	Delta Tau Delta
[5]Dawson, George Isaac	Oakland	Med. gr.	S. F. Hosp., SF-sf
A. B., California, 1915			
Day, Curtiss LaQ.	Stanford Univ.	Engl. gr.	20 Encina
A. B., Illinois, 1917			
[4]Day, Gertrude	San Luis Obispo	Hist.	222 S. 7th, SJ-sj
Deach, Ivan J., Jr.	Escondido	Chem.	60 Sequoia
Deben, Roy Henry	San Francisco	Econ.	418 Encina
Debenham, Martin	San Francisco	Math.	209 Encina
[5]Dechman, Dwight A.	San Jose	Geol.	766 Hedding, SJ-sj
Dechman, Margaret Haskell	San Jose	Sch.Ed.gr.	766 Hedding, SJ-sj
A. B., Stanford, 1919			
[234]Deems, Howard Earl	Long Beach	Econ.	Phi Kappa Psi
DeGolyer, Joseph Baldwin, Jr.	Lincoln	Econ.	El Camino
DeGroot, Dudley Sargent	Sierra Madre	Zool.	450 Encina
[1]Delkin, James Ladd	Seattle, Wn.	Engl.	127 Encina
Delpech, Jean Joseph	Memphis, Tenn.	Econ.	39 Encina
Dement, Alice Louisa	Myrtle Pt., Ore.	Engl.	14 Salvatierra
[12]Dement, Wallace Benj.	Myrtle Pt., Ore.	Pol. S.	14 Salvatierra
Demond, Earle Frank	Los Angeles	Chem.	336 Encina
[1]Denneen, Jerome L. New	Richmond, Wis.	M. E. sp.	Govt. Hospital-p
[3]Derikito, Servillano	Iloilo, P. I.	Chem.	12 Dolores
Derrybery, Charles W.	Grand Jc., Colo.	Econ.	Sigma Alpha Epsilon
[34]Devlin, Arthur Coghlan	Sacramento	Law	Encina
[23]Devor, George Isadore	Los Angeles	Econ.	541 Encina
[5]DeVries, Martin	Billings, Mont.	Econ.	440 Webster p

Dewey, Thomas Etter	Topeka, Kan.	Law	232 Lytton-p
Dewing, Charles William	Oakland	C. E.	433 Encina
Dexter, Winfield Curtis	Portland, Ore.	M. E.	Kappa Sigma
Dickey, Henriette Junkin A. B., Stanford, 1920	Westminster	Engl.	Delta Delta Delta
Dickey, Ruth Poffenberger	Woodland	Span.	Delta Delta Delta
[12]Dickey, Sanford Marrian, Jr.	Isleton	Ent.	Sigma Alpha Epsilon
Dierker, Alwin Victor	Orange	Bot.	125 Encina
Dinapoli, Domenick	San Jose	M. E.	317 Encina
[23]Dingley, Robert Gardner A. B., Stanford, 1920	Palo Alto	Law	825 University p
[4]Dinkelspiel, Lloyd William	San Francisco	Law	2612 Scott, SF-sf
[4]Dixon, James Leroy A. B., Stanford, 1899	Palo Alto	Lat. gr.	430 Kipling-p
[5]Dixon, Robert James A. B., Stanford, 1918	San Jose	Med. gr.	1932 Pine, SF-sf
[5]Dobbel, Charles Arthur	Palo Alto	Geol.	640 Forest-p
Dobbel, Lillian May	Palo Alto	Geol.	640 Forest-p
[12a]Dobbings, Dorothy Bell A. B., Stanford, 1920	Soldiers' Home	Hist. gr.	Madroño
[5]Doble, Warren	San Francisco	M. E.	190 Sea Cliff Ave., SF
[5]Dodd, Harold Valby A. B., Stanford, 1920	Los Angeles	Geol. gr.	547 Encina
[1]Dodds, Lauren Humphrey A. B., Stanford, 1920	San Jose	Econ.	Delta Upsilon
[5]Dodson, Ellen Mackenzie A. B., Southern California, 1919	Pasadena	Engl. gr.	Madroño
Doe, Charles Webster, Jr.	San Francisco	Law	Beta Theta Pi
[1]Dolbow, Floyd Weeks	Palo Alto	Econ.	900 Waverley p
[1]Dominguez, Florencio C.	Mex.City,Mex.	Chem.	11 Salvatierra
Dominguez, Helen Gertrude A. B., Stanford, 1920	Los Angeles	Engl.	Gamma Phi Beta
Donald, Kathryn	Portland, Ore.	Econ.	268 Roble
[4]Donaldson, Anna Mary	Palo Alto	Educ.	737 Webster-p
Donaldson, Dorothy Ellen	Palo Alto	Span.	737 Webster-p
Donaldson, Melvin Smith A. B., Stanford, 1919	So. Pasadena	Min. gr.	Theta Xi
[12]Donaldson, Robert Anders A. B., Stanford, 1920	Denver, Colo.	Engl.	426 Encina
Donoho, Truman Lawrence	Fowler	Span.	333 Waverley
Donohoe, Thomas M.	Cordova, Alaska	Pol. S.	Chi Psi
[12]Doolan Jerome Kaseberg A. B., Stanford, 1920	San Francisco	C. E.	233 Encina
Dorland, Robert Elmore	San Diego	Phys.	Chi Psi

Dorland, Willet	San Diego	Econ.	Chi Psi
Doron, Joseph Smith	Phoenix, Ariz.	Chem.	Theta Xi
A. B., Stanford, 1920			
[3]Douglas, Chesley McKinley	San Jose	Econ.	1101 S. 1st, SJ-sj
Douglas, Helen Frances	Marysville	Chem.	316 Roble
[34]Douglas, Herbert Victor	Debalt, Miss.	Econ. sp.	215 Encina
Douglass, Helena Jeanette	Los Angeles	Engl.	274 Roble
Douglass, Joe Garner	Blythe	Econ.	117 Encina
Downes, Edward F.	San Diego	Econ.	209 Encina
Downing, Joseph Mont	Spokane, Wn.	Educ.	88 Sequoia
Downs, Josephine Lorene	Los Angeles	Span.	249 Roble
[1]Doyle, John Joseph Lalor	San Francisco	Med. gr.	622 Broderick,SF-sf
A. B., Stanford, 1919			
Doyle, Melvin Edward	Riverside	Law	332 Encina
[4]Dozier, Doris	Modesto	Educ. gr.	226 Roble
A. B., Mills, 1920			
Drake, George Francis, Jr.	Los Angeles	M. E.	217 Encina
Draper, Charles Stark	Palo Alto	Psych.	Sigma Alpha Epsilon
[23]Draper, Guy	Arroyo Grande	Geol.	15 Encina
Dreier, Henry Calvin	Stanford Univ.	Geol. sp.	62 Sequoia
[12]Driscoll, Dorothy Catherine	Pasadena	Engl.	Kappa Kappa Gamma
A. B., Stanford, 1920			
[5]Driscoll, John Gerald, Jr.	SanLuisObispo	Law gr.	375 Little Kingsley-p
A. B., Stanford, 1920			
[5]Driver,HerschelLivingston	Portland,Or.	Min. gr.	Theta Xi
A. B., Stanford, 1919			
Driver, Robert Sample	Sacramento	Law	Theta Delta Chi
Drury, Douglas Richard	Victoria, B. C.	Med. gr.	2323 Sac'to, SF sf
A. B., Stanford, 1918			
DuBois, Robert Huston	Vancouver, Wn.	M. E.	346 Encina
Duff, Margaret Helen	Menlo Park	Bot.	Menlo Park-mp
Duggan, Jessie Virginia	Redwood City	Econ.	155 Fulton, RC-rc
Dulley, William Walker	Los Angeles	M. E.	201 Encina
Duncan, Carl Dudley	Fresno	Zool.	Univ. Park
Duncan, Donald Theodore	Los Angeles	Hist.-Law	345 Encina
Duncan, Gilmore Adelbert	Campbell	M. E.	Theta Xi
[14]Duncan, Robert Fyfe Mein	Palo Alto	Geol.	1001 Forest Court-p
[5]Dungan, Donald Kembel	Denver, Colo.	M. E. gr.	227 Encina
A. B., Stanford, 1919			
Dunker, Chrysella	Palo Alto	Ed. G. A.	755 University-p
Dunker, Janice Annette	Palo Alto	Ed. G. A.	755 University-p
Dunlap, David Porter	Douglas, Ariz.	Law gr.	115 Encina
A. B., Stanford, 1916, J. D., 1920			

[12]Dunlap, Richard Lafayette	San Francisco	Econ.	Phi Kappa Psi
Dunn, Chauncey Homer, Jr.	Sacramento	Law gr.	Phi Gamma Delta
A. B., Stanford, 1919			
Dunn, Chester S. W.	New Richmond, Ind.	Math.	438 Encina
Dunn, Elizabeth Manwell	San Francisco	Econ.	Delta Delta Delta
A. B., Stanford, 1920			
[1]Dunn, Herbert Iliff	Fresno	Econ.	Zeta Psi
A. B., Stanford, 1920			
[234]Dunn, William Wyly	Phoenix, Ariz.	Phyl.	438 Encina
Dunshee, Herva Consuelo	Burlingame	Ed. G. A. gr.	Burlingame-b
A. B., Stanford, 1919			
Durant, Raymond Case	Los Angeles	M. E.	554 Encina
[23]Durkee, Andrew Frank'n	Santa Barbara	M. E.	55 Sequoia
Durksen, Laura Hulda	San Jose	Engl.	384 Roble
[1]Duryea, Philip Taylor	Palo Alto	Geol.	109 Encina
Duryee, Lawrence Mathews	San Diego	Chem.	Phi Kappa Sigma
Duthie, Roscoe Gibson	Pullman, Wn.	Law	Sigma Alpha Epsilon
Dwight, Marian Lorna	Stanford Univ.	Math.	Escondite Cottage
Dyche, Justin Kimber	San Jose	Chem.gr.	Col. of Pacific, SJ-sj
A. B., College of the Pacific, 1919			
[5]Dyer, Thomas Lafayette	Alva, Okla.	Law. gr.	436 Lytton-p
A. B., Stanford, 1914			
[4]Eager, Ellsworth West	Red Bluff	M. E.	Encina
Eardley, Armand John	Salt Lake City, U.	Chem.	27 Sequoia
[23]Earle, Isham John	San Diego	Econ.	Phi Kappa Psi
[4]Earle, May C.	Palo Alto	Econ.	565 Everett-p
Eason, Ellen Winifred	Pasadena	Engl.	347 Roble
A. B., Stanford, 1920			
[1]Easter, George Daniel	Pittsburgh, Pa.	Chem.	52 Sequoia
[1]Easterbrook, Paul Henry	Los Gatos	Phyl.	140 Encina
[1]Eastman, Ruth	Bishop	Econ.	325 Roble
A. B., Stanford, 1920			
Ebisuya, Kazuo	Waianae, Oahu, T. H.	M. E.	Japanese Club
Echols, Marion Norwood	Palo Alto	Engl.	374 Kingsley-p
[5]Eckhart, Charles W.	Los Angeles	Span.	14 Salvatierra
[12]Eckhart, George Boland	Los Angeles	Econ	Phi Kappa Psi
A. B., Stanford, 1920			
Eddelman, William Smiley, Jr.	Martinez	Geol.	39 Encina
Eddy, Alice Leland	Brigham City, U.	Econ.	220 Roble
Edgar, Hazel Beatrice	Imperial	Educ. gr.	Delta Gamma
A. B., Stanford, 1920			
Edgar, Lucile Claire	Imperial	Ed. G. A.	Delta Gamma
Edmonds, Beatrice May	San Diego	Engl.	Pi Beta Phi

Edmonds, Raoul Leland	LittleRock,Ark.	M. E.	El Camino
Edwards, Arnold Barnett	Crockett	Chem.	Theta Delta Chi
Edwards, Fannie Roberta	TwinFalls,Ida.	Engl.	376 Roble
Edwards, Gerald Jesse	Portland, Ore.	Econ.	248 Encina
[23]Edwards, Harry Jack	San Diego	Econ.	39 Sequoia
[1]Edwards, Merriam Charles	Napa	Engl.	409 Encina
Edwards, Muriel Emma	Wallace, Ida.	Econ.	280 Roble
[24]Edwards, Orvil Dare	Oakland	M. E.	230 Encina
Egami, Hubert Eziro A. B., Stanford, 1920	Visalia	M. E.	Japanese Club
Eggleston, Thomas Hubert	Emmett, Ida.	M. E.	349 Encina
Eiskamp, Ehler Henry A. B., Stanford, 1918	Palo Alto	Med. gr.	2105 Pine, SF-sf
Eiskamp, Marguerite A. B., Stanford, 1920	Palo Alto	Chem. gr.	446 Forest-p
[4]Elder, Edith Dimmitt A. B., Nebraska Wesleyan, 1908.	San Jose	Fr. gr.	456 S. 12th, SJ-sj
Eldredge, Lois	Stanford Univ.	Chem.	281 Roble
[2]Eldridge, Carlton Rowell	Berkeley	Econ.	351 Encina
Elfving, Isabel Dorothy	Modesto	Fr.	Pi Beta Phi
Elliott, Edward Loomis	Pittsburgh, Pa.	Geol.	559 Cowper
Elliott, Elmer Ellsworth	Compton	Hist.	404 Encina
[1]Elliott, Raymond West	Neosho, Mo.	Chem.	620 Waverley-p
[1]Elliott, Wallace Fordham	San Francisco	Econ.	64 Sequoia
Ellis, Charles Alden	San Francisco	M. E.	122 Encina
Ellis, Leland Wadsworth A. B., Stanford, 1917	E. Bakersfield	Med. gr.	1875 Sac'to, SF-sf
[23]Ellis, William Unger	Eureka	Chem.	207 Encina
[4]Ellison, Elizabeth	So. Pasadena	Ed. G. A.	Roble
Ells, Harry Arthur	Bellingham, Wn.	M. E.	Alpha Tau Omega
[3]Elmore, Garrett Henry	Palo Alto	Lat.	1134 Emerson-p
Elsey, Caryl Lucile	Lawrence, Kan.	Fr.	218 Roble
Elsinger, Ruth Maxine A. B., Stanford, 1920	Glendora	Engl.	209 Roble
Elvey, Donald Mitchell	San Jose	Econ.	223 S. 23rd, SJ-sj
Elwood, Ernest Anthony	Ukiah	Law	301 Encina
Emmerson, Theodora	Canon City, Colo.	Engl.	372 Roble
Endres, Herbert Arthur A. B., Stanford, 1920	Los Angeles	Chem. gr.	563 Encina
[12]Enea, Vincent	Monterey	Econ.	Sequoia
Engels, Emil Edward	Stanford Univ.	Law	347 Encina
[4]Enright, James Robert	Santa Cruz	Zool.	49 Encina
[5]Enright, Margaret Mary	Santa Clara	Hist.	1588 Liberty, SC-sc

[1]Epler, Myron Cleary	Hanford	Econ.	Zeta Psi
[1]Eppich, Elinor Marie	Denver, Colo.	Pol. S. gr.	333 Roble
A. B., Stanford 1919			
Eremievsky, Serge A.	Petrograd, Russia	Engl.	Escondite Cottage
[1]Erich, Ezra Edward	San Jose	Min. gr.	546 No. 4th, SJ-sj
A. B., Stanford, 1920, Engineer, 1920			
Erich, Reuben Robert	San Jose	M. E.	109 Encina
[12]Erickson,AlfredChas.	OakHarbor, Wn.	Econ.	400 Pope-p
Erickson, Paul Ferdinand	Kingsburg	Law	544 Encina
[12]Esgen, Wienand Kelly	Los Angeles	M. E.	Alpha Tau Omega
[4]Estabrook, Winifred Frances	San Jose	Educ.	200 Roble
Estus, Mildred Margaret	Palo Alto	Lat.	207 University-p
[5]Evans, Daniel Webster	San Bernardino	Law	249 Encina
[4]Evans, Irene	San Francisco	Engl.	238 Roble
Evans, Mark Howard	Minto Bridge,Y.T.	Geol. sp.	425 Encina
Evans, Wardwell Devore	SanBernardino	Econ.	249 Encina
Evans, William Cary	Riverside	Econ.	Beta Theta Pi
Evenson, Clarence Roy	Clatskanie, Ore.	Pol. S.	543 Encina
Evenson, Franklin F.	Clatskanie, Ore.	M. E.	543 Encina
A. B., Stanford, 1920			
[4]Everett, Earl Alex.	Walla Walla, Wn.	Pol. S. gr.	25 Salvatierra
A. B., Nebraska, 1919			
[1]Everts, Frank Gustavus	Palo Alto	Law	360 Bryant-p
[23]Ewing, Sydney Clement	Bedford, Engl.	Geol.	24 Sequoia
[124]Eyer,ClarendonBennett,Jr.	LosAngeles	Chem.	Phi Gamma Delta
Fablinger, James Brown, Jr.	Campbell	Econ.	328 Encina
[5]Fairchild, Donald Raymond	Palo Alto	Econ.	418 Ramona
Fairchild, Nellie Irene	Bertrand, Neb.	Fr.	224 Roble
[1]Fairfield, John Edmund	Chicago, Ill.	Econ.	Chi Psi
Faitoute, Alice Everts	Visalia	Psych.	210 Roble
A. B., Stanford, 1920			
Falk, Curtis Lane	Eureka	Phyl.	Delta Upsilon
Falk, Oliver Stedman	Eureka	Phyl.	Delta Upsilon
Fall, John Gilbert	Los Angeles	Econ.	Alpha Tau Omega
[34]Farish, Edward Tilghman	San Diego	Geol.	Phi Kappa Psi
Farish, Linn Markley	Woodland	M. E.	Kappa Sigma
[4]Farley, Fred Long	San Jose	Greek gr.	65 Singletary, SJ-sj
A. B., Albion, 1907, A. M., 1911			
Farmer, Edward McNeil	Alhambra	Ed. G. A.	556 Encina
Farnsworth, George Willis	Porterville	Econ.	Delta Chi
[1]Faso, Charles Joseph	Woodside	Zool.	Woodside-rc
Faulds, John	Sunnyvale	Educ.	Sunnyvale-s
Faville, David Ernest	Portland, Ore.	Econ.	306 Encina

Faville, Richard William	Portland, Ore.	M. E.	Beta Theta Pi
Fawcett, Will Mahlon	Whittier	Phyl.	Sigma Nu
Fearney, Emily Esther	Los Angeles	Engl.	351 Roble
Fehren, Fred Gericho	San Jose	Econ.	119 Encina
Felberbaum, William	Portland, Ore.	Phyl. sp.	408 Encina
[1]Felt, Hall Merle	Long Beach	Chem.	301 Encina
Fendler, Harold Altman	Los Angeles	Hist.	230 Encina
[5]Fenlason, Clayton Orin A. B., Stanford, 1920	Portland, Ore.	Law gr.	46 Encina
Fennell, John Vincent	Eureka, U.	Geol.	Theta Xi
[2]Ferguson, Guy Hunter A. B., Stanford, 1920	Berkeley	Engl.	406 Encina
Fernish, Charles Adolph	Santa Clara	Chem.	205 Encina
[23]Fewel, Alan James	Fresno	Econ.	451 Encina
[2]Fewel, Richard William	Fresno	Econ.	451 Encina
[1]Fickeisen, Frederick Henry	Burlingame	Econ.	998 Howard, B-b
Field, John, 2d	Philadelphia, Pa.	Engl.	1251 Bryant-p
[4]Field, Marie Louise	Ketchikan, Alaska	Educ.	2 Lasuen
Filler, Mary Louise	Aberdeen, Wn.	Span.	303 Roble
[5]Filley, Edward Prior	South Pasadena	Geol.	Zeta Psi
Finley, Mark Hanna A. B., Stanford, 1920	Los Angeles	Econ.	Delta Kappa Epsilon
Fish, Frances Cecilia	Palo Alto	PreN.	308 Lincoln-p
Fish, Lounsbury Slaght	Palo Alto	C. E.	308 Lincoln-p
[12]Fisher, Arthur William,Jr. A. B., Stanford, 1920	Los Angeles	C. E.	Kappa Alpha
Fisher, Beverly Harold	San Francisco	Pre-Clin.	11 Salvatierra
Fisher, Ross Clark	Spokane, Wn.	Econ.	540 Encina
Fiske, Louie McKinley A. B., Stanford, 1920	San Jose	Educ.	141 Encina
Fleming, Robert Carlile	Lincoln	Hist.	El Camino
[12]Fletcher, Hal Baker A. B., Stanford, 1920	Palo Alto	Geol. gr.	305 Hamilton-p
Fletcher, Helen Frances A. B., California, 1919	Palo Alto	Econ. gr.	667 Channing-p
Fletcher, Hugh Mackay A. B., British Columbia, 1919	Toronto,Canada	Phil. gr.	559 Cowper-p
[13]Flippen, Virginia Parker	Orange	Bact.	Alpha Omicron Pi
Floete, Carl Elmore	Armour, S. D.	Econ.	Delta Kappa Epsilon
Flood, Randolph Gove A. B., Stanford, 1918	San Francisco	Med. gr.	2601 Filbert, SF-sf
Flowers, Esther May	Monrovia	Ent.	Kappa Alpha Theta
Flowers, Evelyn Grace A. B., Stanford, 1920	Monrovia	Educ.	Kappa Alpha Theta

Flowers, Montaville Dean, Jr.	Monrovia	Geol.	236 Encina
[14]Follis, Donald Charles	Palo Alto	Chem. sp.	Gov't Hosp.-p
[4]Forney, Ross Arthur	Fresno	Econ.	209 Encina
Footman, Gladys Blanche	Madera	Hist. gr.	1 Arguello
A. B., Stanford, 1919, A. M., 1920			
[1]Ford, Bertrand Thomas	Salem, Ore.	Zool.	Kappa Sigma
A. B., Stanford, 1920			
[34]Ford, Clifford McDermont	Fullerton	Econ.	315 Encina
Ford, Marjory Gibb	San Francisco	Zool.	353 Roble
Forster, Albert	Mexico City, Mex.	Geol.	Theta Xi
[234]Forster, James Tobias	San Bruno	Econ. sp.	459 Hamilton-p
Fortson, Gordon Russell	Homer, La.	Phyl.gr.	2309California SF-sf
A. B., Washington and Lee, 1919			
[1]Fowler, Morris Grubb	Palo Alto	Chem.	628 Waverley-p
[4]Fox, Elizabeth Frederica	Racine, Wis.	Chem. gr.	229 Roble
A. B., Santa Clara (Wis.), 1912; A. M., Wisconsin, 1913			
Fox, Edgar Ransom	Oakley	Chem.	260 Churchill-p
[23]Fox, Leo Sanor	Santa Barbara	Geol.	116 Encina
[4]Fox, Ruth Mary	Racine, Wis.	Engl. gr.	228 Roble
A. B., Santa Clara (Wis.), 1912; A. M., Wisconsin, 1913			
Frame, Paul Warren	Centralia, Wn.	Med. gr.	Community House-p
B. S., University of Washington, 1916			
Frankenheimer, Bernard Jos.	Stockton	Econ.	121 Encina
Frankenheimer, Bernice	Stockton	Engl.	208 Roble
A. B., Stanford, 1920			
[3]Frankley, Lawrence William	San Fran.	Law	26 Sequoia
Franklin, Altharetta Belle	Carpinteria	Engl.	358 Roble
Franklin, Anna Comstock	StanfordUniv.	Phyl.-Med.	Mirada Ave.
A. B., Stanford, 1920			
Franklin, Charles Scott	Stanford Univ.	Geol.	Mirada Ave.
Franklin, Lawrence Al	Portland, Ore.	Econ.	506 Encina
Franklin, Lloyd Jackson	San Bernardino	M. E.	El Camino
Franklin, Walter King	San Bernardino	M. E.	El Camino
[5]Franklin, William D.	Palo Alto	Law	130 Fulton
[1]Frantz, Harry Warner	Riverbank	Econ.	Cooksey Lane
Frazer, Esther May	Mountain View	Ger. gr.	Chiquita, MV-mv
A. B., College of the Pacific, 1919; A. M., Stanford, 1920			
[4]Frederick, Annie Ray	Spokane, Wn.	Educ.	115 Roble
Fredericks, John D., Jr.	Los Angeles	Phyl.	Alpha Delta Phi
[12]Frederickson, Frederick R.	Los Gatos	Econ.	Alpha Sigma Phi
Freeman, Edwin Robert	Corona	Econ.	El Camino
[12]French, Gladys Lillian	Hollister	Ed. G. A.	Alpha Omicron Pi
French, Samuel Wilcox	Ashtabula, Ohio	M. E.	42 Encina

[1]Frey, Earle William A. B., Stanford, 1917	Fairplay	M. E. gr.	225 Encina
Frickelton, Jean Scott A. B., Stanford, 1920	San Francisco	Econ.	Chi Omega
[5]Fritzschen, H. Wilhelm	San Francisco	Bact. sp.	718 Bryant-p
[23]Frolli, Winfred Romeo	San Jose	Hist.	228 W. St. James, SJ-sj
Frost, Edward Gibson	Los Angeles	Econ.	Alpha Sigma Phi
[13]Frymire, DeWitt Talmage	Tulare	Econ. sp.	467 Everett-p
[2]Fuessle, Charles Kenneth	Pasadena	Engl.	51 Sequoia
Fujii, Edward Ryuichi A. B., Stanford, 1920	Nagato, Japan	Chem.	Stanford Park-p
[3]Fujimoto, Ryugyo	Japan	Phil.	718 Emerson-p
Fujimoto, Tadao	Iyo, Japan	Econ.	Japanese Club
Fullerton, Edith Ralston A. B., Stanford, 1920	San Francisco	Hist.	Delta Gamma
Fullerton, HughThompson	SanFrancisco	Law	Beta Theta Pi
[1]Fulton, Lyman	Eureka, Nev.	Pol. S. sp.	555 Waverley-p
Fundenberg, William C. A. B., Stanford, 1920	Pasadena	Econ.	Alpha Sigma Phi
Furui, Shungo	Selma	M. E.	Japanese Club
Gagos, Kenneth A.	San Francisco	Chem.	975 Hamilton-p
[234]Gallegos, Percy Beales	Palo Alto	Phyl.-Med.	905 Scott-p
[234]Galliano, James Frank	Palo Alto	Law	Cowper Court-p
[4]Gandy, Richard Karl	Riverside	Econ.	41 Encina
[23]Gardner, Anna Margaret	Whittier	Hist.	Delta Gamma
Gardner, Dorothy	Stanford Univ.	Fr.	la Alvarado
Gardner, Kenneth Drake	Oakland	Pol. S.	245 Encina
[34]Gardner, James Blaine	San Francisco	Econ. sp.	217 Encina
Gardner, Mona Marie A. B., Stanford, 1920	San Francisco	Engl.	Chi Omega
[12]Gardner, Sherman D.	Stanford Univ.	Bot.	la Alvarado
[5]Garland, Ruth A. B., Stanford, 1920	Ojai	Bact.	2309 Broderick, SF-sf
Garrett, Milan Wayne A. B., Stanford, 1920	El Paso, Texas	Chem. gr.	45 Sequoia
[12]Garrett, Sadie Opal A. B., Stanford, 1920	El Paso, Texas	Engl.	168 Roble
[1]Garrigues, John, Jr.	South Pasadena	Chem.	337 Encina
[1]Garstang, Richard Edward	Santa Ana	Hist.	445 Encina
[4]Garth, William LeRoy	Palo Alto	Chem.	115 Encina
[4]Gartzman, Pauline A. B., Stanford, 1908; A. M., 1916	San Diego	Educ. gr.	19 Salvatierra
Garvin, Lenell Ethlyn A. B., Stanford, 1919, A. M., 1920	Los Angeles	Lat. gr.	Alpha Omicron Pi

[12]Garvin, Priscilla Ash	Long Beach	Econ.	329 Roble
[12]Gary, Wright Wesley	Aurora, Ill.	Geol.	Phi Kappa Psi
[1]Gause, Bruce Wickliffe	Pixley	Geol.	123 Encina
[24]Gazley, James Clyde	Gazley, Ore.	M. E. sp.	231 Encina
Gebert, Otto Carl Ph. D., Stanford, 1920.	Pullman, Wn.	Fr. gr.	334 Amherst, M
[4]Gee, Gertrude Lucile A. B., Minnesota, 1907	Monticello, Minn.	Engl. gr.	168 Roble
Geisler, William Herman	Sunnyvale	Psych.	226 Encina
Gentry, Harold Goodman	Redlands	Phyl.	112 Encina
[12]Geoghegan, Alice Brooke	Palo Alto	Econ.	453 Kipling-p
[1]Geoghegan, Gordon Arnold	Palo Alto	Geol.	453 Kipling-p
[12]George, Arthur Tolover A. B., Stanford, 1920	Stanford Univ.	Econ.	Stanford Union
George, Dorothy Marian	La Crescenta	Econ.	200 Roble
[5]George, James Morrille A. B., Brigham Young, 1912	Palo Alto	Med. gr.	707 Bryant-p
[5]Gerken, Elon Edward	Sacramento	Econ.	625 Emerson-p
Gerson, Lowell Woodruff	Los Angeles	Phyl.	Alpha Delta Phi
Getz, Laura M.	Hollywood	Bot.	Delta Delta Delta
[12]Geyer, Henry Elmer	Burley, Ida.	M. E.	College Terrace
Ghrist, David Garrison	Ames, Ia.	Phyl.	Beta Theta Pi
Ghrist, Orrie E. A. B., Stanford, 1917	Ames, Ia.	Med. gr.	2321 Sac'to, SF-sf
Gianini, Leo Gregory	San Francisco	M. E.	331 Encina
Gibbon, Thomas Edward, Jr.	LosAngeles	Phil.	Chi Psi
Gibbs, Chester William A. B., Stanford, 1920	Orcutt	Min. gr.	320 Encina
Gibbs, Marion Wallace	Pasadena	Span.	Kappa Kappa Gamma
[13]Gibson, Florian Greenleaf	Palo Alto	Geol.	831 Hamilton-p
Gibson, Russell Graves	Seattle, Wn.	Econ.	56 Sequoia
[13]Gibson, William Earl	Palo Alto	Geol.	831 Hamilton-p
[12]Giesecke, Walter, Jr. A. B., Stanford, 1920	Marble Falls, Tex.	Econ.	Sigma Nu
Gilbert, Fay Margaret	Hoquiam, Wn.	Math.	179 Roble
Gilbert, James Cornelius	Spokane, Wn.	Geol.	73 Sequoia
Gilbert, Warren K.	Montrose, Colo.	Law	Delta Upsilon
[8]Gilchriste, Frank Cooper	San Mateo	Econ.	Sequoia
[13]Gilchriste, Gladys Home	San Mateo	Engl.	Kappa Alpha Theta
Gilkey, Wallace Alfred	Stanford Univ.	Chem.	Stanford, M-m
[4]Gill, Barbara Arlene	Folsom	Educ.	Roble
[3]Gill, Roland Jerome	Spokane, Wn.	C. E. sp.	Cowper Court-p

[5]Gillan, Lela Opal	Seward, Neb.	Educ. gr.	Madroño
A. B., Nebraska Wesleyan, 1917			
[234]Gillespie, BartlettWhitmer	SantaMaria	Geol.	Stanford Union
[1]Gillett, Eugene Carichoff	Carmel	Chem.	Theta Delta Chi
[3]Gilliland, Edwin Gaylord	Riverside	M. E.	
Gilroy, Urban Burns	Marysville	C. E.	21 Salvatierra
[12]Gimenez, Maximo Frias	Bataan, P. I.	Ger.	18 Alvarado
Girard, Adolph Gustav	San Francisco	M. E.	331 Encina
[23]Girot, Harry John	Oakland	Phyl.	359 Emerson-p
[12]Gladding, Albert Chandler	Lincoln	Econ.	Phi Kappa Sigma
[5]Gleason, Juliette Esther	Los Angeles	Econ.	Delta Delta Delta
Glen, Hugh Harold	Los Angeles	Econ.	Sigma Chi
Glenn, Charlotte Marian	Los Angeles	Fr.	Roble
Goddard, Philip Hubbard	Long Beach	Law	Alpha Sigma Phi
Goldberg, Manuel Michael	Mayfield	Engl. sp.	28 Alvarado
[5]Goldstein, Joseph	Sacramento	Med.gr.	2309California,SF-sf
A. B., Stanford, 1919			
Goldstein, Matt Moses	Sacramento	Law	538 Encina
A. B., Stanford, 1920			
Goldstone, Abram Hirsch	Lewiston, Ida.	Econ.	505 Encina
Gomes, Joseph Vincent	Campbell	Econ.	344 Encina
[1]Gonzalez,CarlosAlberto	Nicaragua,C.A.	M. E.	436 Waverley-p
[12]Gonzalez,DiegoManuel	Nicaragua,C.A.	M. E.	15 Salvatierra
[1]Good, Stewart	Tacoma, Wn.	Econ.	1004 Emerson-p
Goodman, Daniel Louis	Yakima, Wn.	Econ.	22 Encina
Goodnow, Margaret Joan	Claremont	Hist.	164 Roble
[5]Goold, John Vernon	Morgan Hill	Ger.	555 Encina
[1]Gore, Evelyn Julia	San Francisco	Fr.	Delta Delta Delta
[1]Gores, Walter Winthrop J.	Los Angeles	Ed. G. A. gr.	400 Encina
A. B., Stanford, 1917			
Gorman, William Harrington	Raymond	M. E.	Escondite Cottage
[12]Gormley, Harriet	Atlantic City, N. J.	Engl.	Delta Gamma
[1]Goss, Pierre Bontecou	Sheridan	Econ.	Phi Kappa Sigma
Goudy, Clyde LeRoy	San Jose	Chem.	116 Fox, SJ-sj
Gould, Howard F.	Fairmont, Minn.	Law	Beta Theta Pi
Goux, Estelle Katherine	Santa Barbara	Hist.	275 Roble
[5]Goux, Julien Francis	Santa Barbara	Phil.	10 Sequoia
Grable, Goss Silas	San Jose	Hist.	502 Hull, SJ-sj
[4]Grady, Robert Lee	Fellows	Econ.	219 Encina
Graham, John Woodrow	Denver, Colo.	Econ.	Kappa Sigma
A. B., Stanford, 1920			
Grant, Marjorie E. M.	Palo Alto	Econ.	315 Melville-p
[4]Gratz, Eleanor Victoria	San Jose	Educ.	204 Roble

Graveley, Martha Jane A. B., Stanford, 1920	Boise, Ida.	Fr.	Delta Delta Delta
[13]Graves, Adelaide Dorothy	San Diego	Span.	Gamma Phi Beta
Graves, Dick Wedgwood	Ogden, Utah	Econ.	Delta Chi
Gravestock, Warren Edward	Menlo Park	Econ.	R.F.D.1, B70, MP-mp
[12]Gray, George Donald A. B., Stanford 1920	Pueblo, Colo.	Chem. gr.	656 Bryant-p
[12]Gray, Jesse Allen	Bristol, Tenn.	Geol.	232 Encina
[4]Greathouse, Robert Marvin	Santa Ana	Econ.	41 Encina
Green, Charles Henry	Palo Alto	Econ.	525 Channing-p
Green, Frances Myers	Glendale	Fr.	373 Roble
[12]Green, Frederick Rufus A. B., Stanford, 1920	Des Moines,Ia.	M. E.	Delta Tau Delta
Green, George Robert	Palo Alto	Econ.	525 Channing
[234]Green, Gladys	Palo Alto	Engl.	642 Webster-p
Green, Norman Boynton	Redlands	C. E.	642 Webster-p
Green, Robert Lewis	Cheyenne, Wyo.	Chem.	Delta Kappa Epsilon
Green, Thomas Edwards	Stanford Univ.	Chem.	13 Salvatierra
[4]Green, William Wiley A. B., Missouri, 1911	Victorville	Educ. gr.	Campus
[4]Greene, Harry Ashland, Jr.	Monterey	M. E.	27 Encina
Greene, Thomas G., Jr.	Portland, Ore.	Econ.	357 Encina
[4]Greenlaw,VeraElizabeth	Flagstaff, Ariz.	Educ.	157 Roble
[34]Greer, Margaret A. B., Stanford, 1919	San Jose	Math. gr.	350 Prevost, SJ-sj
[4]Gregersen, Albert Ingstrup	Solvang	Geol.	525 Forest-p
[4]Gregersen, Halfdan Ingstrup	Solvang	Fr.	525 Forest-p
[4]Gregersen, Magnus Ingstrup	Solvang	Bot.	525 Forest-p
[5]Greis, Arnold John A. B., Stanford, 1920	Los Angeles	Law gr.	321 Encina
[23]Griffin, Carroll Brent	Mayfield	M. E.	199 Stanford, M-m
Griffin, Eldon A. B., Harvard, 1916	Enid, Okla.	Hist. gr.	25 Salvatierra
[23]Griffin, Harold Park	Los Angeles	C. E.	401 Encina
[1]Griffin, Raymond Rudolph A. B., Stanford, 1920	Salinas	Econ.	Delta Chi
[3]Griffin, Russel L.	San Francisco	Econ. sp.	39 Sequoia
[124]Griffith, Willard Clare	Upland	Econ.	Phi Kappa Sigma
Griffiths, Katherine Ione A. B., Stanford, 1920	San Jose	Econ.	1195 Alameda, SJ-sj
[1]Griswold, Elvin R.	Modesto	Econ.	247 Encina
[12]Griswold, Hugh Harris	Modesto	Law	15 Encina
Grondona, Charles Arata	San Francisco	Chem.	410 Encina

Grosfield, Inez Katherine — Los Angeles — Hist. — Delta Gamma
[4]Grossman, Sydney Samuel — Econ. — 39 Encina
Grothe, Marion Ware — Wayne, Neb. — Span. — 39 Sequoia
Ground, RayGranville — Independence,Ore. — Geol. — 141 Encina
Grundy, Arthur Evan — Los Angeles — Econ. — 332 Encina
[1]de Guerre,SydneyChester — San Francisco — C. E. — Menlo Park
[2]Gunn, Milton Curtiss — Helena, Mont. — Law — Phi Kappa Sigma
A. B., Stanford, 1920, LL. B., 1920
Gunter, Clyde Elton — Fresno — Econ. — 17 Encina
Gunther, Marie Agnes — San Francisco — Econ. — 362 Roble
[1]Gupta, Sailendra Nath — Calcutta, India — Phyl.
Gurley, Lee Sivley — Redwood City — M. E. — Sigma Nu
[1]Gustafson, Elmer Emel — San Jose — Chem. — 223 Fox, SJ-sj
Gustus, Edwin Lysle — Calgary, Canada — Chem. — 238 Encina
Haberfelde, Clarisse Ruth — Bakersfield — Econ. — Gamma Phi Beta
Haberfelde, Edmund Carl — Bakersfield — Econ. — Phi Gamma Delta
[5]Hackett, Durlin Bates — Waukegan, Ill. — Econ. — 1028 Emerson-p
Hadley, Edwin Wilson — San Diego — Law — 224 Encina
A. B., Stanford, 1920
[4]Haeseler, John A. — Douglas, Wyo. — Econ. — Beta Theta Pi
[4]Hagen, Milton Abel — Los Angeles — Engl. — Madroño
Hagis, John A. — Constantinople, Turkey — Greek — 106 Encina
[1]Hahn, Harry Henry — San Mateo — Chem. — 715 Occidental, SM-sm
[5]Haig, T. Raymond — Oakland — Med. gr. — 2136 Pacific, SF-sf
A. B., Stanford, 1918
Haines, Wilbur Heath — Oakland — Geol. — Theta Delta Chi
A. B., Stanford, 1920
Haist, Helen Eugenia — Lemoore — Span. gr. — 219 Roble
A. B., Stanford, 1920
Haizlip, Raymond — Portland, Ore. — Econ. — 202 Encina
Hake, Benj. Franklin — Worland, Wyo. — Geol. gr. — 105 Encina
A. B., Stanford, 1920
[12]Halbert, Elizabeth Amelia — Long Beach — Engl. — 238 Roble
[5]Haley, Bernard Francis — Los Angeles — Econ. — 30 Sequoia
Haley, Melvin Collins — San Jose — C. E. — Theta Delta Chi
Hall, Anne M. — San Mateo — Bact. — 327 Roble
Hall, Donald James — Omaha, Neb. — Econ. sp. — Phi Kappa Sigma
Hall, Dorothy — Santa Barbara — Fr. — 363 Roble
[4]Hall, Ernest Mosiah — St. George, Utah — Bact. gr. — 704 Waverley-p
A. B., Brigham Young, 1905; M. S., State College of Washington, 1916
Hall, George William — Pasadena — Econ. — Alpha Delta Phi
Hall, Helene Marie — San Mateo — Span. — Sigma Kappa
A. B., Stanford, 1920

[5]Hall, James Hinquong	San Francisco	Med. gr.	2215 Pine, SF-sf
A. B., Stanford 1919			
Hall, Laurence Chalmers	Riverside	Fr.	Delta Upsilon
A. B., Stanford, 1920			
Hall, Mildred Jessica	San Francisco	Chem.	321 Roble
[1]Hall, Norma Pierce	Stanford Univ.	Engl.	Delta Gamma
Hall, Winslow Gladwin	San Mateo	C. E. gr.	236 Encina
A. B., Stanford, 1920			
Hallmeyer, CarmenGertrude	Santa Clara	Law	Chi Omega
Ham, Anne Elizabeth	Los Gatos	Econ.	372 Roble
[5]Hambleton, Frances Frazier	Palo Alto	Educ. gr.	1027 Bryant-p
A. B., Stanford, 1920			
Hamilton, Ernest	Pasadena	M. E.	Beta Theta Pi
[1]Hamilton, Harold Pierpont	LosAngeles	Zool.	Burlingame
[4]Hamilton, Nellie	Fresno	Educ.	103 Roble
Hamilton, Ray Leroy	Delano	Chem.	421 Encina
Hamlin, Harris Howard	Los Angeles	Law	Sigma Alpha Epsilon
[5]Hamlyn, Thomas Joseph	San Francisco	Geol.	Beta Theta Pi
[5]Hampton, Harold Clark	Whittier	Bot. gr.	319 Encina
A. B., Stanford, 1920			
[1]Hancock, Donald Welborn	Riverside	Geol.	Delta Tau Delta
Hancock, Velda	San Jose	Econ.	532 S. 9th, SJ-sj
Hand, Arlene Zweifel	Hillyard, Wn.	Lat.	236 Roble
A. B., Stanford, 1920			
[5]Handley, William Henry	Palo Alto	Hist. gr.	451 Channing-p
A. B., College of the Pacific, 1919; A. M. Stanford, 1920			
[1]Hanifen, James Lloyd	Spokane, Wn.	Engl.	359 Encina
Hanner, John Flint	San Jose	Econ.	997 E. Julian, SJ-sj
[5]Hansen, Hazel Dorothy	San Mateo	Greek gr.	402 Tilton, SM-sm
A. B., Stanford, 1920			
Harbaugh, Wellington F.	Sacramento	Econ. sp.	Delta Tau Delta
[5]Harding, Philippi Harriette	Los Angeles	Math. gr.	Delta Delta Delta
A. B., Stanford, 1920			
Hardy, Anne	San Diego	Pol. S.	Kappa Kappa Gamma
Hare, Dorothy	Salinas	Econ.	Alpha Phi
Harker, Charles Andrew	San Jose	C. E.	Theta Delta Chi
Harker, Edgar Louvau	Oakland	Chem.	20 Sequoia
[1]Harlan, Vaughan Reese	Aromas	Econ. sp.	25 Sequoia
[12]Harper, Edward Baldwin	Balboa	Law	420 Encina
Harper, William Alexander	Santa Cruz	Econ.	Phi Kappa Sigma
[12]Harrington, Charles Henry	Corona	Chem.	El Camino
[34]Harrington, Edward W.	San Rafael	Hist.	406 Encina
Harris, Benjamin Arthur	Stanford Univ.	Law gr.	210 Encina
A. B., Stanford, 1919			

[12]Harris, Harley Hugo	Okmulgee, Okla.	Econ.	Delta Kappa Epsilon
Harris, Helen Estelle	Los Angeles	Econ.	Roble
Harris, Melville David	Modesto	Econ.	448 Encina
Harrison, Edna Alice	Los Angeles	Hist.	Alvarado Hall
Harrison, George Russell	Halcyon	Phys. gr.	7 Cabrillo
A. B., Stanford, 1919, A. M., 1920			
[2]Harrison, Laurence Ernest	Hanford	Bact.	57 Sequoia
Harrison, Samuel Winston	SanFrancisco	Phyl.	14 Sequoia
[12]Hart, Adah Hope	Chillicothe, Ill.	Educ.	306 Roble
A. B., Stanford, 1920			
[1]Hartley, James John	Napa	Geol.	352 Encina
[5]Hartman, Barnard Wilson	Palo Alto	Law. gr.	315 Everett-p
A. B., Stanford, 1920			
[5]Hartman, Hans	Crockett	Bact.-Med.	Theta Delta Chi
[1]Hartman, Raymond Barnes	Pasadena	Hist.	Phi Gamma Delta
[12]Hartman, Richard Homer	Palo Alto	M. E.	615 Middlefield-p
[12]Hartsoc, Francis Maurice	Oakdale	Law	121 Emerson
[4]Hartwig, George H.	Northfield, Minn.	Engl. gr.	Stanford Union
A. B., Stanford, 1913			
[5]Harzfeld, Arthur Jerome	San Francisco	Law gr.	423 Encina
A. B., Stanford, 1920			
[3]Hashimoto, Todaichi	Yamaguchi, Japan	Chem. sp.	Japanese Club
Haskell, Llewellyn Gilmore	Berkeley	C. E.	235 Encina
Hastings, Alice Narcissa	Pasadena	Engl.	216 Roble
A. B., Stanford, 1920			
Hauge, Helen Cree	Long Beach	Engl.	269 Roble
Hawes, John Raymond	San Jose	Chem.	125 Fremont, SJ-sj
Hawkenson, Edna	Randolph, Kan.	Econ.	333 Roble
Hawkins, Wayne Lee	Mountain View	Pol. S.	Mountain View-mv
[23]Hawley, James Leroy	Palo Alto	M. E.	457 Bryant-p
Hawxhurst, Roberta	San Francisco	Engl.	167 Roble
Haxton, Wallace Raymond	San Jose	Econ.	Alexandria Hotel-p
[1]Hayes, Elystus Lyon	San Jose	Law gr.	Phi Delta Theta
A. B., Stanford, 1916, J. D., 1920			
Hayes, Jay Orlo, Jr.	San Jose	Bot.	Phi Delta Theta
Hayne, William Alston B.	San Francisco	Geol.	507 Encina
Hays, Frank Bellchambers	Palo Alto	M. E.	412 Kipling-p
Hays, Robert Paden	Greeley, Colo.	Zool.	Theta Delta Chi
Hays, Samuel Ewing	Palo Alto	C. E.	350 Encina
[1]Hayward, Clem James	Paris, Ida.	Zool.	847 Bryant-p
[4]Hayward, Ida Rickard	Los Gatos	Zool. gr.	Menlo Park-mp
A. B., Stanford, 1911			
[234]Hazeltine, Matthew Emery	San Jose	Chem. gr.	596 S. 10th, SJ-sj
B. S., California, 1916			

Heaps, Pearl	Street, Md.	Zool. gr.	117 Roble
A. B., Goucher, 1910			
Heater, William Earl	Ritzville, Wn.	Geol.	Phi Kappa Psi
[12]Heath, Phyllis Thoburn	Palo Alto	Chem.	1147 Ramona
Heath, Ronald Wayland	Palo Alto	M. E.	1147 Ramona-p
[1]Heathcote, James Gerard	Hanford	Econ.	449 Encina
Heckendorf, Percy Chas.	Santa Barbara	Econ.	44 Encina
[23]Heintz, Ralph Morell	Oakland	Chem.	604 Kingsley-p
A. B., Stanford, 1920			
Hellbaum, Walter Fred'k	Spokane, Wn.	Educ.	330 Encina
[4]Heller, Edward Hellman	Menlo Park	Econ.	Menlo Park-mp
Hellwig, Erle Edward	Mt. Eden	Econ.	Kappa Sigma
Helmick, John Nathaniel	Wakita, Okla.	Educ. gr.	11 Salvatierra
A. B., Oklahoma, 1917, A. M., 1920			
Helser, Charles Willard, Jr.	Piedmont	Pol. S.	Sigma Nu
Henderson, Edward	Santa Paula	Law gr.	Sigma Alpha Epsilon
A. B., Stanford, 1916, J. D., 1920			
[34]Henderson, James Ralph	Los Angeles	Span.	3 Sequoia
[12]Henderson,PaulFleming	Spokane, Wn.	C. E.	25 Salvatierra
[12]Henderson, Paul Leroy	Lucerne, Colo.	Geol.	Theta Delta Chi
Henderson, Ynez Marie	Campbell	Bot.	Campbell
[2]Hendrick, Roy Wesley	Palo Alto	C. E.	327 Webster-p
[4]Henry, Mary Bess	Santa Ana	Educ. gr.	7 Alvarado
A. B., Chicago, 1903; A. M., Knox, 1909			
[4]Henshaw, Millett	St. Louis, Mo.	Lat.	625 Bryant-p
[12]Henry,MerlinLeoPatrick	SanFrancisco	C. E.	Kappa Alpha
[3]Henry, Wilbur Amos	Los Angeles	Pre-L.	Zeta Psi
[5]Hensold, Gaylord William	Tonica, Ill.	Econ.	545 Bryant-p
[34]Herkman, Paul Veillat	Palo Alto	Fr. sp.	237 Alma-p
Heron, Ivan Clyde	Watsonville	Med. gr.	232 Encina
A. B., Stanford, 1919			
Herrington, Fred Sturtevant	Ogden, U.	Law	Delta Chi
[1]Hert, Julia Ernestine	Colton	Econ.	Roble
[5]Hertel, Francis Westerfeld	Pasadena	Geol.	Zeta Psi
Hess, Chester Newton	Ogden, Utah	Econ.	Delta Chi
Hess, Gordon Cumming	Burlingame	C. E.	1268 Cortez, B-b
A. B., Stanford, 1920			
[4]Hesselmeyer, Clarence T.	Mayfield	Lat.	Mayfield-m
[4]Hester, Willis Elston	Mountain View	Educ. gr.	Mountain View-mv
B. S., Colorado College, 1905.			
Hettinger, Wellington Walker	Mt. View	Econ.	346 Encina
Hevener, Emilie Marguerite	Sacramento	Math.	Alpha Phi
A. B., Stanford, 1920			

Hevener, Ruth Clara A. B., Stanford, 1920	Sacramento	Bot. gr.	316 Roble
Hewitt, Mary Elizabeth	San Jose	Bact.	112 Roble
Hichborn, Deborah Alice	Santa Clara	Engl.	1091 Fremont, SC
Hichborn, Paul Revere	Santa Clara	Bot.	250 Encina
[1]Hickinbotham, John Cyrus	Stockton	Law sp.	Phi Gamma Delta
[23]Hicks, James Ernest	Pasadena	Econ.	24 Alvarado
Hicks, James Herndon	San Diego	Chem.	Chi Psi
Hield, Clarence A. B., Pomona, 1916.	Palo Alto	Med. gr.	649 Lytton-p
Higby, Myron Claude	Los Angeles	Econ.	Alpha Sigma Phi
Higgins, Clyde Randolph	Redwood City	M. E.	Redwood City-rc
Highley, Blanche Marie A. B., Stanford, 1920	San Francisco	Ger.	Alpha Phi
[4]Hightower, William T.	Grapevine, Tex.	Educ.	Palo Alto
[12]Hihn, Teresa Agnes A. B., Stanford, 1920	Palo Alto	Econ.	1121 Bryant-p
Hill, Elinor Walker	La Jolla	Chem.	278 Roble
Hill, Roy Irving	Medford, Ore.	C. E.	Beta Theta Pi
Hillesheim, Anna L. A. B., Minnesota, 1904.	Sleepy Eye, Minn.	Educ. gr.	567 Lincoln-p
Hillis, Donuil Marshall	Los Angeles	Chem.	334 Encina
Hillman, Genevieve A. B., Stanford, 1920	Rexburg, Ida.	Engl.	Roble
[12]Hills, Leslie William A. B., Stanford, 1920	San Francisco	M. E.	Theta Delta Chi
[12]Hilton, Miriam	Portland, Ore.	Engl.	Kappa Alpha Theta
[4]Hinchcliffe, Margaret Purvis A. B., Stanford, 1918.	San Fran.	Engl. gr.	705 Cowper-p
Hinton, William Frank	Hansen, Ida.	Geol.	84 Sequoia
Hirata, Henry Hikoichi	Japan	Chem.	735 Ramona-p
[5]Hirschfeld, Ellis	Butte, Mont.	Econ.	300 University-p
Hirst, Charles Harold A. B., Stanford, 1920	Douglas, Ariz.	M. E.	513 Encina
Hitchcock, Donald Millwood	PasoRobles	Geol.	109 Encina
Hobbs, Charles Steinmetz A. B., Stanford, 1920	Fresno	Econ.	Sigma Nu
Hocker, Cora Lavina A. B., Earlham, 1913.	Berne, Ind.	Engl. gr.	Madroño
[1]Hockett,GrahamClaude	NorthBend,Ore.	Econ.	364 Encina
Hocking, Florence Victoria	Modesto	Hist.	Alpha Omicron Pi
Hodges, Lauder Watson	Palo Alto	Law	330 Encina
[23]Hodges, Michael Bryan	Yuma, Ariz.	Hist.	215 Encina

[1]Hoefgen, Lena Brooks A. B., Stanford, 1916.	Palo Alto	Ed. G. A. gr.	221 Byron-p
Hoenshell, David Toby	Bakersfield	M. E.	136 Encina
[5]Hoever, Henrietta Maude	Willows	Engl.	Chi Omega
[12]Hoffman, Hallock Egelston A. B., Stanford, 1920	Pasadena	Econ.	Delta Tau Delta
Hoffman, Mary Virginia	Pasadena	Econ.	171 Roble
[4]Hofman, Philip A. B., Chicago, 1909; A. M., Stanford, 1919.	Avon, Ohio	Engl. gr.	Palo Alto
Hogan, James Harrington	Vallejo	Econ.	23 Encina
[14]Hogg, Melita Mary	Saratoga	Psych.	259 Roble
Hogle, Milton Monroe, Jr.	Lincoln	Econ.	El Camino
[4]Hoisholt, Estella	San Jose	Ed. G. A.	200 Roble
Holaday, Perry Ward	San Jose	Geol.	215 Encina
[1]Holbrook, James Lowell	Blackfoot, Ida.	Econ.	9 Sequoia
Holden, Elizabeth Hyde A. B., Stanford, 1920.	Evanston, Ill.	Engl.	217 Roble
Holden, Raymond Dixon	Riverside	Chem.	12 Sequoia
[12]Hole, Philip DeCew	Burlingame	Hist.	Phi Delta Theta
Hollingshead, Arthur Dack A. B., Nebraska Wesleyan, 1915; A. M., Stanford, 1920.	Monroe,Neb.	Educ. gr.	334 Lincoln-p
Hollingshead, Delbert John	Monroe,Neb.	Geol.	334 Lincoln-p
Hollingshead, John Hinton	Boise, Ida.	Econ.	53 Sequoia
Hollingsworth, Lytle Webster	San Jose	M. E.	350 So. 6th, SJ-sj
Holman, Juliette	Palo Alto	Fr.	558 Lincoln-p
Holman, Ritter A. B., Stanford, 1920.	Pacific Grove	Econ.	Phi Kappa Sigma
Holmes, Alden Walton	Redlands	C. E.	Theta Delta Chi
Holmes, William H.	North Bend, Ore.	C. E.	127 Encina
Holston, Ashley Stanford	Mayfield	Geol.	200 Leland, M-m
[1]Holt, Alfred Preston	Portland, Ore.	Econ.	Chi Psi
[1]Holt, Edmond Rufus	Portland, Ore.	Econ.	14 Salvatierra
[2]Holt, James Martin A. B., Stanford, 1920.	El Centro	Econ.	Delta Tau Delta
Holt, Nancy Harriette A. B., Stanford, 1920.	Portland, Ore.	Fr.	267 Roble
[2]Holven, Alfred Leonard	Long Beach	Chem.	Alpha Sigma Phi
[23]Holzinger, Wm. Homer	Annawan, Ill.	Econ.	251 Hamilton-p
Hood, Arthur James A. B., Nevada, 1917.	Reno, Nev.	Med. gr.	2323 Sac'to, SF-sf
Hood, Walter H.	Long Beach	Econ.	514 Encina
Hood, Wilbur Kenneth A. B., Stanford, 1920.	Portland, Ore.	Econ.	Kappa Sigma

Hoover, Clayton Brown	Blackfoot, Ida.	Econ.	9 Sequoia
Hoover, Fenton Whitman	Los Angeles	C. E.	1129 Cowper-p
Hoover, Mildred Brooke	Palo Alto	PreN.	450 Melville-p
[1]Hopkins, John Bright	Fresno	Chem.	302 Encina
Hopper, Velma Aileen	Rocky Ford, Colo.	Math.	270 Roble
Horibe, Genichi	Osaka, Japan	Econ. sp.	Japanese Club
Horn, Arthur Walton	San Jose	Econ.	829 S. 7th, SJ-sj
Horner, Clyde Dale	Newberg, Ore.	Phyl.	623 Middlefield-p
[4]Horrall, Albion Harris	Spokane, Wn.	Educ. gr.	124 Encina
A. B., Washington State College, 1919.			
[4]Horrmann, Curt August	NewYork,N.Y.	Econ.	Phi Gamma Delta
Horton, Helen Eloise	Newcastle, Wyo.	Hist.	254 Roble
Horton, William Ogden	Newcastle, Wyo.	Econ.	Sigma Chi
A. B., Stanford, 1920.			
Hosepian, Haig Mitchell	Sanger	Phyl.	531 Encina
Hosepian, Vaughn M.	Sanger	Phyl.	531 Encina
[13]Hoskins, Dorothy Helen	Grass Valley	Engl.	Sigma Kappa
[1]Hosmer, Merritt Reynolds	San Carlos	Chem.	San Carlos-sc
Hoss, Herman Hubert	Corona	Law gr.	El Camino
A. B., Stanford, 1918, J. D., 1920.			
Hotaling, Lorice Katharine	Pasadena	Engl.	352 Roble
[4]Houliston, Anne	Great Falls, Mont.	Educ.	Madroño
[5]Housh, Cecil Noble	Orlando, Okla.	Geol.	612 Waverley-p
[5]Howard, Clara Eulalie	Benton, Ill.	Econ. gr.	239 Roble
Ph. B., Chicago, 1917.			
Howard, Lloyd Gibbs	San Francisco	Law	Kappa Alpha
[13]Howard, Margaret	Oakland	Econ.	Kappa Alpha Theta
Howe, Charles Dudgeon	Palo Alto	E. E. gr.	347 Alma-p
A. B., Stanford, 1919, Engineer, 1920.			
[1]Howe, Mildred Kenglsley	San Francisco	Ed. G. A.	Delta Gamma
Howell, Chester Edgar	Denver, Colo.	Econ.	235 Encina
[4]Howell, Editha	Alpaugh	Engl. gr.	234 Roble
A. B., Southern California, 1918.			
Howell, James Mint, Jr.	San Jose	Econ.	Delta Tau Delta
[1]Howell, John Alvin	Long Beach	C. E.	210 Encina
[4]Howes, John Gaylord	Palo Alto	Hist. gr.	219 Ramona-p
A. B., Stanford, 1914, A. M., 1915.			
Hoxsie, Earl Justin	Folsom	M. E.	208 Encina
[12]Hoxsie, Sophia Marguerite	Folsom	Math.	675 Channing-p
[5]Hsu, Leonard Shih-Lien	China	Econ.	6 Cabrillo
Hubbard, Gordon Alden	Palo Alto	Econ.	828 Cowper-p
Hubbs, Harry Coffin	Palo Alto	Econ.	135 Cowper-p
Hudelson, Warren Evan	Hughson	M. E.	333 Encina
A. B., Stanford, 1920.			

Hudson, Carroll Delmar	Los Angeles	M. E.	Alpha Tau Omega
Hughes, Fred Marshall	Palo Alto	Econ.	1234 Emerson-p
Hughes, Thomas Patrician, Jr.	Palo Alto	Chem.	316 Encina
Hugo, Merrill S.	San Jose	M. E.	287 N. Market, SJ-sj
[23]Hull, George Benjamin	Los Angeles	Hist.	446 Encina
[1]Hummel, Wayne Rolland	Fellows	M. E.	437 Encina
[23]Humphreys, Donald P.	Okla.City,Okla.	Econ.	Campus
Humphries, Clare	Palo Alto	Engl.	521 Everett-p
Hunie, Fred Blydenburgh	Pasadena	M. E.	443 Emerson-p
Hunkin, Milward Stafford A. B., Stanford, 1920.	Cleveland, O.	C. E.	Sigma Chi
[4]Hunt, Dorothy Elizabeth	Anaheim	Engl.	114 Roble
[12]Hunt, Faye Josephine	Twin Falls, Ida.	Engl.	240 Roble
Hunt, Harriet	Pasadena	Econ.	Kappa Kappa Gamma
[5]Hunter, Clarence Lester A. B., Stanford, 1918.	Redlands	Med. gr.	2321 Sac'to, SF-sf
[4]Hunter, Johnsie Blair	Alexander, N. C.	Educ.	U. S. P. H. Hosp.-p
[124]Hunter, Kenneth Hume	Palo Alto	Geol.	1001 Forest Court-p
Huntington, Edwin C.	Hoquiam, Wn.	Chem.	308 Encina
[1]Hurd, Ernest Duke	Salt Lake City, U.	Econ.	4 Sequoia
Hurlbert, Dorothy	Los Angeles	Span.	Kappa Kappa Gamma
[5]Hurley, Charles Clifton A. B., Stanford, 1920.	Albion	Educ. gr.	18 Encina
[5]Hurley, Jere Elwood	Albion	Hist.-Law.	18 Encina
[4]Hurt, Everett Price	Chamute, Kan.	Geol.	237 Encina
Hutchens, Francis Case	Los Angeles	Lat.	55 Encina
Hutton, Donald Voorhes	Jeffers, Mont.	Econ.	Phi Kappa Psi
[5]Hutton, Mildred Marie	Lemoore	Span.	Chi Omega
[5]Hwang, Pu A. B., Stanford, 1919.	Changsha, China	Educ. gr.	405 Emerson
Hyatt, Persis	Sacramento	Fr.	Kappa Alpha Theta
[12]Hyde, William Avery	Los Altos	Chem.	Los Altos-la
Hyer, Anna Doris A. B., Stanford, 1920.	Ft. Leavenworth, Kan.	Chem.	319 Roble
Imokawa, John Kiichi	Fukuoka, Japan	M. E.	Japanese Club
Ingoldsby, Kirby	Pasadena	M. E.	202 Roble
[4]Irwin, Eugene Jerel A. B., Stanford, 1920.	Berkeley	Educ. gr.	42 Encina
Irwin, Kathryn	Lindsay	Engl.	Chi Omega
Irwin, Thomas George	Twin Falls, Ida.	Econ.	444 Encina
Iseri, Kamehachi Thomas	Los Angeles	Chem.	Japanese Club
Ishii, Frank Toru	Long Beach	Chem.	514 Encina

[5]Ito, Charles	Tokyo, Japan	Engl.	Japanese Club
[23]Jackson, John Kenyon	Stockton	Geol.	325 Encina
Jackson, Margaret A.	Lexington, Ore.	Engl.	276 Roble
[5]Jackson, Newton Rumell	Palo Alto	Med. gr.	675 Hamilton-p
A. B., Brigham Young, 1917.			
[5]Jacobsen, Lydik Siegumfeldt	Napa	M. E.	119 Kellogg-p
Jacobsen, Theodor Siegumfeldt	Napa	Chem.	119 Kellogg p
Jacoby, Lionel Arnold	Oroville	Phyl.-Med.	123 Encina
[1]Jaeger, Lloyd Powell	Portland, Ore.	Econ.	Phi Gamma Delta
James, Arthur George	Palo Alto	M. E.	215 Churchill-p
James, Charles Alfred	Fowler	Med. gr.	2186 Bush, SF-sf
A. B., California, 1915.			
[14]James, Edith Mary	Riverside	Span.	Alpha Omicron Pi
[12]James, Harriet Christena	Palo Alto	Chem. gr.	565 Everett-p
B. S., California, 1913.			
[2]James, William Henry	Denver, Colo.	Econ.	611 Bryant-p
Jameson, Adelaide	Corona	Chem.	Delta Gamma
A. B., Stanford, 1920.			
Jameson, Carol E.	Corona	Med. gr.	2319 Sac'to, SF-sf
A. B., Stanford, 1917.			
[23]Jameson, Wesley Jos., Jr.	St.Paul,Minn.	Econ.	322 Encina
[4]Jamison, Emma Van Noy	Santa Clara	Econ.	Santa Clara-sc
Jamison, Mary Muir	Santa Monica	Span.	Gamma Phi Beta
[1]Jansen, Bonita	Long Beach	Span.	Delta Delta Delta
A. B., Stanford, 1920.			
[12]Janssen, Edward Anton, Jr.	San. Fran.	Econ.	667 Hamilton-p
Jarvis, Russell Boyden	Greeley, Colo.	Law	Phi Delta Theta
Jeffers, John Nace	Los Angeles	Econ.	Delta Upsilon
[5]Jefferson, Edward Milton	Inglewood	Educ. gr.	348 Encina
A. B., Stanford, 1920.			
Jenanyan, Edward Harutune	Fresno	Hist.-Law.	564 Encina
Jenkins, Kendall Reed	San Luis Obispo	C. E.	31 Encina
[5]Jenks, Christopher Martin	Oakland	Econ.	Phi Gamma Delta
Jennings, Thomas Murdoch	Menlo Park	Econ.	Menlo Park-mp
[12]Jensen, Edward Victor	Spokane, Wn.	Econ.	140 Encina
[134]Jensen, Jens P.	Spokane, Wn.	Med. gr.	S. F. Hosp., SF-sf
A. B., Idaho, 1917.			
[5]Jepsen, Hans J.	Gardnerville, Nev.	Law	Delta Tau Delta
[4]Jerome, Carmen Ursula	Sydney, Austr.	Fr.	116 Roble
Jertberg, Gilbert Henry	Chino	Law gr.	El Camino
A. B., Stanford, 1920.			
[124]Johannsen, Kenneth Hutton	Lemoore	Chem.	Delta Kappa Epsilon
John, Harold Thomas	Florence, Colo.	M. E.	49 Encina

Johnson, Dorothy Edith	Burlingame	Econ.	333 Occidental, B-b
[4]Johnson, Geneva	Mountain View	Span. gr.	Mountain View-mv
[23]Johnson, George Warner	Palo Alto	Hist.	Runnymede-p
Johnson, Glenn Walter	Ceres	Econ.	21 Encina
Johnson, Howard	Los Angeles	Chem.	Delta Kappa Epsilon
[1]Johnson, Julie R.	Aberdeen, Wn.	Educ. gr.	Alvarado Hall
A. B., Stanford, 1913.			
[1]Johnson, Lucy Margaret	Palo Alto	Engl.	318 Emerson-p
Johnson, Oliver Wolcott	Los Angeles	Chem.	321 Fulton
[4]Johnson, Petra Beatrice	Redwood City	Educ. gr.	Redwood City-rc
A. B., Whittier, 1915; A. M., Stanford, 1917.			
Johnson, Richard Edwin	Satsop, Wn.	M. E.	333 Encina
Johnson, Roger P.	Los Angeles	Econ.	Alpha Tau Omega
Johnson, Sidney Preston	Red Bluff	M. E.	Sigma Chi
[2]Johnson, Teresita Trescony	San Fran.	Fr.	Alpha Phi
A. B., Stanford, 1920.			
Johnson, Wanda Lee	Ontario	Hist.	364 Roble
[5]Johnson, Willard Lendelof	SanFrancisco	Span.	1905 Broadway, SF-sf
Johnston, Dorothy	San Jose	Econ.	Alpha Phi
Johnston, Evelyn Hatch	San Jose	Chem.	Kappa Kappa Gamma
Johnston, Frank Reed	San Jose	Med. gr.	2105 Pine, SF-sf
A. B., Stanford, 1917.			
Johnston, Russell Rueben	San Jose	Hist.	Phi Kappa Psi
Johnston, Winifred Belle	Stanford Univ.	Fr.	4 Alvarado
[1]Jolly, Charles Wm.	OklahomaCity, Okla.	Engl.	Kappa Sigma
Jones, Bernard Corr	Bryn Mawr, Pa.	Psych.	4 Sequoia
Jones, Evelyn Mabel	Santa Clara	Econ.	317 Roble
[13]Jones, Gertrude Flint	Palo Alto	Med. gr.	2401 Sac'to, SF-sf
A. B., Stanford, 1919.			
Jones, Grace Elizabeth	Fullerton	Span. gr.	Gamma Phi Beta
A. B., Stanford, 1919.			
Jones, Guy Peter	Durham	Chem.	660 Waverley-p
Jones, J. Walter	San Francisco	Med. gr.	2218 Webster, SF-sf
A. B., Stanford, 1913.			
[4]Jones, Ora Genevieve	Santa Clara	Econ.	Santa Clara-sc
[1]Jones, Philip Hanby	Alhambra	Chem. gr.	406 Encina
A. B., Stanford, 1918.			
Jones, Ralph Harding	Malad City, Ida.	Law	65 Sequoia
A. B., Stanford, 1920.			
Jones, Ruth Albertine	Palo Alto	Econ.	Pi Beta Phi
Jopson, Frank Granvil	San Jose	Geol.	343 So. 8th, SJ-sj
[5]Jopson, Ida	San Jose	Zool.	265 Roble
[2]Jordan, John Cuthbert	San Francisco	Chem.	405 Emerson-p

[4]Jordan, John S.	Grass Valley	Sch. Ed. gr.	405 Emerson-p
A. B., Denver, 1916.			
Joseph, Gertrude Jennie	Mountain View	Hist.	Mt. View-mv
[12]Josselyn, Winsor	Carmel	Engl. sp.	21 Sequoia
[12]Joyce, Samuel F.,Jr.	WebsterGrove,Mo.	Geol.	51 Sequoia
Judah, Nelson Van	Needles	Econ.	22 Lasuen
Judge, Anna Frances	Hollister	Econ.	Kappa Kappa Gamma
[23]Julien, Edward Hale	San Francisco	Hist.	351 Encina
Kahle, Francis Clifford	San Diego	Econ.	348 Encina
[5]Kahle, Loren John	Oil City, Pa.	Econ.	Hotel Palo Alto-p
Kahle, Richard Frederick	San Diego	Law gr.	448 Encina
A. B., Stanford, 1918.			
[5]Kai, Gunki	San Francisco	Econ.	Japanese Club
[3]Kai, Kanezo	Nippon, Japan	Engl.	Japanese Club
Kakimoto, Nikizo	Japan	Chem.	Japanese Club
A. B., Stanford, 1920.			
Kalischer, Helen Ruth	San Francisco	Law gr.	310 Roble
A. B., Stanford, 1918, J. D., 1920.			
Kallam, Floyd Loren	San Diego	M. E.	Theta Xi
[1]Kaster, Ruth Miller	Topeka, Kans.	Law gr.	Kingscote
A. B., Washburn, 1915.			
Kaufman, Gretchen	Bellingham, Wn.	Chem.	148 Roble
[1]Keach, Harold G.	Ft. Worth, Tex.	Geol.	650 Waverley-p
Keck, Howard Burrell	Washington, Ia.	Chem.	El Camino
Keen, Sadie Ernestine	Palo Alto	Ent.	940 Scott-p
[1]Kegley, Carl Smith	Los Angeles	Law gr.	126 Encina
A. B., Stanford, 1917.			
[12]Keller, Donald Archibald	Ukiah	Geol.	301 Encina
Keller, Walter Paul	Portland, Ore.	Econ.	248 Encina
Kelley, Kenneth K.	Salt Lake City, U.	Chem.	38 Sequoia
Kellogg, DorothyWhittemore	SantaRosa	Engl.	359 Roble
[1]Kellogg, William Scripps	Altadena	Law	Sigma Nu
Kelly, James Bryden	Palo Alto	Ent.	940 Bryant-p
Kelly, Jessie Creager	Palo Alto	Educ.	241 Cowper-p
Kelly, Katharine Louise	Palo Alto	Econ.	909 Cowper-p
A. B., Stanford, 1920.			
Kennedy, Avery Roy	Blackfoot, Ida.	M. E.	9 Sequoia
[12]Kennedy, Forrest Harry	Blackfoot, Ida.	Econ.	317 High
Kennedy, Forrest Lee	Tulsa, Okla.	Econ.	Phi Kappa Psi
[23]Kennedy, Harold Weir	Hollywood	M. E.	202 Encina
[12]Kennedy, James A.	Tulsa, Okla.	Econ.	Phi Kappa Psi
Kennedy, Laura Elizabeth	Palo Alto	Econ.	334 Lincoln-p
[5]Kennedy, Vernon Fowler	Palo Alto	Phyl.	627 Bryant-p

[5]Kenny, Robert Walker	Los Angeles	Engl.	Kingscote
Kerr, Paul Francis B. S., Occidental, 1919.	Van Nuys	Min. gr.	110 Encina
Kettles, Florence Elizabeth	Corning	Hist.	215 Roble
[4]Kiely, Helen Mary	Lawrence	Educ.	Lawrence-l
Kiggens, Clarence Edward	Lindsay	Econ.	50 Encina
Kildale, Malcolm Brus	Eureka	Geol.	207 Encina
Kilpatrick, Wylie McC.	Stanford Univ.	Econ.	203 Encina
Kimber, George Card A. B., Stanford, 1920.	Palo Alto	Bot.	666 Tennyson-p
[14]King, Anna Venn A. B., California, 1909.	Berkeley	Chem. gr.	636 Bryant-p
King, Charles Samuel	Portland, Ore.	Econ.	357 Encina
King, Donald Eliot	Porterville	Zool.	Mayfield
[1]King, Francis Richard	Redwood City	Pol. S.	4 Duane, RC rc
King, Frank LeRoy A. B., Stanford, 1920.	Stanford Univ.	Econ.	Delta Chi
[12]King, Harold Nelson	Sacramento	Phyl.	526 Encina
[34]King, Harriet Shulze A. B., Stanford, 1910.	Banning	Chem. gr.	2345Divis'd'o,SF-sf
[4]King, John Preston	Jasper, Ala.	Econ.	660 Waverley-p
King, Maxwell Clark	Los Angeles	Econ.	Alpha Delta Phi
King, Raymond Irvin	Porterville	Geol.	Mayfield
[1]King, Waldemar Bryant	Petaluma	Geol.	344 Encina
Kingrey, Lotha Waive	Santa Ana	Econ.	Roble
[5]Kinney, Paul Burt	Pasadena	Phyl.	Delta Upsilon
Kinney, Roland Thomas	Los Angeles	Chem.	Zeta Psi
[5]Kinney, Wendell Harcourt	Los Angeles	Law	Zeta Psi
Kirby, Madison C.	San Francisco	Engl. sp.	348 Encina
[5]Kircher, William Jay	Burlingame	Educ.	328 Encina
Kirksey, Morris Marshall	Eagle Rock	Phyl.	Encina Gym
Kirkwood, Arthur C.	Colo. Springs, Colo.	M. E.	Phi Kappa Psi
[1]Kisich, Oliver Michael	Oakland	Phyl.	Stanford Union
Kleckner, Thomas Madison	Mount. View	Econ.	Mt. View-mv
Klein, Abraham Dreyfuss	Lompoc	Hist.	55 Sequoia
[5]Kleinpell, William Darwin	Los Angeles	Geol.	500 Encina
[28]Kleiser, George Wm., Jr.	San Francisco	Econ.	1810 Jackson, SF
Kline, Mortimer Allen	Los Angeles	Law	Alpha Delta Phi
[4]Klingberg, Frances Irene A. B., Southern California, 1920.	Whittier	Chem. gr.	268 Roble
Kluegel, Elsa Margaret A. B., Stanford, 1919.	Stanford Univ.	Zool. gr.	Cooksey Lodge
Klyver, Fred, Jr.	Fresno	Phil.	409 Encina

Knapp, Addison Perry	Portland, Ore.	Econ.	Sigma Nu
Knappen, James Fawcett	Bismarck, N.D.	Econ.	71 Sequoia
Knox, George Livingston	Palo Alto	Chem.	325 Everett-p
Knudtson, Robert A. B., Stanford, 1920.	Kingsburg	Chem.	303 Encina
[12]Kocher, George Smout A. B., Stanford, 1920.	San Jose	Phyl.	Delta Tau Delta
Koehler, Max Conrad	Madrone	C. E.	61 Sequoia
[3]Koepfli, Joseph Blake	Los Angeles	Chem.	32 Sequoia
Kolberg, Wallace Leonard A. B., Stanford, 1920.	Phoenix,Ariz.	Chem.	220 Encina
Konishi, William Hiroshi	Lemoore	M. E.	Japanese Club
Korts, Bernhard Hagedorn	Oxnard	Chem.	58 Encina
Kraft, Warren Hamilton	San Francisco	Chem.	Phi Delta Theta
Kranzthor,WilfredAnthony	Los Angeles	Econ.	72 Sequoia
Krisher, Dorothy Lucile	Mountain View	Econ.	101 Grant Rd.,MV-mv
[1]Krueger, Albert Paul	San Francisco	Phyl.	558 Encina
[1]Krull, Donald Carl	Indianapolis, Ind.	Engl.	Sigma Nu
[34]Kulmann, Charles Albert	Palo Alto	M. E.	Hamilton Ext.-p
[4]Kyle, George Marion	Los Angeles	Psych.	Beta Theta Pi
Lacey, Lorin Daryl	Monterey	M. E.	Delta Upsilon
LaForce, Washington Butler A. B., Stanford, 1920.	LosAngeles	Econ.	Kappa Alpha
[12]Laforgue, Alexander	San Francisco	Chem.	Alpha Delta Phi
[1]Lall, Shiam	Gwalior, India	Phyl.	548 Encina
Lambert, Gerald Snow B. S., Utah, 1919.	Salt Lake City, U.	Geol. gr.	27 Sequoia
Lambie, John Edward, Jr.	Beverly Hills	Fr.	Beta Theta Pi
LaMontagne, Ellard Edward	Los Gatos	M. E.	20 Encina
LaMontagne, Leslie H. A. B., Stanford, 1920.	Los Gatos	M. E.	20 Encina
[124]Lampson, Myrle Robbins	Folsom	Engl.	281 Embarcadero-p
Lamson, Margaret Eunice A. B., Oregon, 1919.	Palo Alto	Med. gr.	616 Cowper-p
[12]Landweer,SjoerdinaElizabeth	PaloAlto	Fr.	626 Homer-p
Landels, Edward Durley	San Jose	Econ.	11 Sequoia
[5]Landis, Philip Flint	Berkeley	Pol. S.	54 Sequoia
[4]Lane,AlbertCharles,Jr.	Springfield,Mass.	Econ.	Encina
Lane, John Calhoun	Oakland	M. E.	248 Encina
[12]Lang, Glenn Irving	Santa Cruz	Geol.	112 Encina
Lang, Robert Edward Lee	Dallas, Tex.	Econ.	69 Sequoia
[5]Langcauon, Prudencio	Oas, Albay, P. I.	Educ.	365 Channing

[1]Langdon, Lucy Anita A. B., Stanford, 1920.	Los Angeles	Ed. G. A.	Alpha Phi
[1]Lange, Donovan Stilman	Berkeley	M. E.	Alpha Delta Phi
Langer, Ruth Anna	San Francisco	Psych.	377 Roble
Langford, Russell R.	North Platte, Neb.	Econ.	Phi Delta Theta
Langford, Verne	Oakland	Chem.	525 Encina
[3]Lantzeff, George V. University of Petrograd, Russia.	Petrograd, Russia	Educ. gr.	650 Waverley-p
[4]Lardi, Albertram Martha	San Francisco	Lat.	156 Roble
Largent, Mary Elizabeth A. B., Stanford, 1920.	Berkeley	Ed. G. A.	KappaKap'aGamma
Larimer, Aline Rose	Hollywood	Econ.	Alpha Omicron Pi
Laros, Gerald A. B., Stanford, 1920.	Grinnell, Ia.	M. E. gr.	511 Encina
Larsen, Joseph Urban	Warren, Ariz.	Geol.	350 Pope
Larson, Irving Brooks	Palo Alto	Chem.	216 Encina
[5]Larson, Selma Ingrid	Los Angeles	Zool.	242 Roble
[4]Launder, Arthur Irwin	Tacoma, Wn.	M. E.	Seale Academy-p
[1]Lavagnino, Mary Louise	Pasadena	Econ.	108 Roble
[23]Lavelle, Michael James	Los Angeles	M. E. sp.	436 Waverley
[23]Lawrence, Sarah Elizabeth	Millbrae	Fr.	Kappa Alpha Theta
[5]Layman, Everett Seymour A. B., Stanford, 1920.	Reno, Nev.	Law gr.	428 Encina
Leach, Wanda Connell	Los Angeles	Ed. G. A.	Chi Omega
[2]Leak, John Amiel A. B., Stanford, 1920.	Penryn	Econ.	407 Encina
Learnard, Mary	Gilroy	Fr.	165 Roble
[4]Lechten, Madeleine	San Francisco	Lat.	248 Roble
[34]LeClere, Walter Booth	Eagle Rock	Econ.	245 Ramona-p
[4]Lee, Chiu Hang	San Francisco	Educ.	Menlo Park-mp
[5]Lee, DeWitt Rogers	Modesto	Econ.	Delta Tau Delta
[23]Lee, Ethel A. B., Stanford, 1919.	Palo Alto	Span. gr.	970 University-p
[1]Lee, Huylar Wells	Geneseo, N. Y.	Geol.	326 Encina
Lee, Ruth Dorinda T.	Stanford Univ.	Chem.	11 Alvarado
Lee, Sik Sham	Canton, China	M. E.	4 Salvatierra
Leeds, Albert Wagner A. B., Stanford, 1920.	San Diego	Law gr.	Kappa Alpha
Leicester, Elsie Allen	San Francisco	Hist.	Kappa Kappa Gamma
Leiser, Wm. Frederick	Twin Falls, Ida.	Law	326 Encina
LeMarinel, Kenneth F.	Spokane, Wn.	Geol.	Alpha Delta Phi
Lembke, Hugo John	Orange	Geol.	325 Encina
[5]Leonard, Eileen M. A. B., California, 1917.	San Francisco	Med. gr.	1124 Fulton, SF-sf

[1]Lernhart, Mervin Conrad	Napa	Engl.	422 Princeton, M
Lesley, Lewis Burt	Los Angeles	Hist.	512 Encina
A. B., Stanford, 1920.			
Leve, Lewis Hayd	Stanford Univ.	Law	Kingscote
[1]Levison, Robert Mark	San Francisco	Hist.	121 Encina
[12]Levy, David Nathan	Prescott, Ariz.	Chem.	429 Encina
Levy, Milton Lester	Los Angeles	Pre-Clin.	557 Encina
A. B., Stanford, 1920.			
Lewelling, Raymond	St. Helena	M. E.	509 Encina
A. B., Stanford, 1920.			
[1]Lewis, Genevieve Mildred	La Jolla	Hist.	Chi Omega
Lewis, Joe Leslie	Dinuba	Ent.	403 Encina
Lewis, John K.	San Diego	Med. gr.	2325 Sac'to, SF-sf
A. B., Stanford, 1918.			
[23]Lewis, Robert Ernest	Los Angeles	Econ.	245 Encina
[5]Lewis, Warren Frederic	Butte, Mont.	Engl.	59 Sequoia
Li, Yu	Kiangsi, China	C. E.	Chinese Club
Lies, Margaret Anna K.	Waterville, Wn.	Econ.	Roble
[2]Likely, Homer Edmund	Stanford Univ.	Chem.	406 Encina
Liljenstein,Gustaf M.	NewLondon,Conn.	Chem.	530 Emerson-p
Lilly, John Kenneth	Ashland, Ore.	Law	Theta Delta Chi
A. B., Stanford, 1920.			
de Lima, Jorge Alves	Sao Paulo, Brazil	M. E.	4 Lasuen
Ling, Shu-Mong	Pingkiang, China	Econ.	Chinese Club
[12]Linn, Frank Chester	Merced	M. E.	402 Encina
A. B., Stanford, 1920.			
[4]Linn, George Irving	Merced	Educ. gr.	Encina
A. B., Stanford, 1919.			
[1]Linn, Robert Donald	Aberdeen, Wn.	Econ.	49 Encina
Linneman, Vincent Joseph	Watsonville	Econ.	418 Encina
Linstrum, John Wesley	Kingsburg	Phyl.	Delta Upsilon
Lissner, Louis Meyer	Los Angeles	Law gr.	323 Encina
A. B., Stanford, 1919.			
[1]Listle, John Ingersoll	Kalispell, Mont.	Econ.	127 Encina
[5]Litchfield, Everett S.	Independence, Kan.	Econ.	Kingscote
[23]Little, Galbraith Amasy	Los Angeles	Chem.	218 Encina
[1]Littlejohns,EarlAlbert	GreatFalls,Mont.	Econ.	Encina
[1]Littleton, Calvin Tracy	Pasadena	Econ.	Beta Theta Pi
[1]Livesay, Marjorie Eileen	Palo Alto	Econ.	446 Palo Alto-p
Livingston, Arthur Dean	Modesto	Chem.	523 Encina
[5]Locke, John Goodwin	Palo Alto	Phil. gr.	Sigma Alpha Epsilon
A. B., Stanford, 1920.			
Lockwood, Helen Fidelia	Pasadena	Econ.	Kappa Kappa Gamma
[12]Lockwood, Paul Ambrose	Redlands	Econ. sp.	415 Lytton-p

[23]Loder, Arthur W.	Palo Alto	Econ. sp.	426 Florence-p
Loder, Edward Stark	Palo Alto	Geol.	426 Florence-p
[1]Logan, Noble Herold	Mountain View	C. E.	R.F.D. A, B325,MV-mv
Lombard, Herbert William A. B., Oregon, 1915.	Eugene, Ore.	Law. gr.	660 Waverley-p
Lonabaugh, Alger W.	Sheridan, Wyo.	Law	Los Altos-la
[12]Long, Charles Stuart, Jr.	Hayward	Law	Delta Kappa Epsilon
[1]Long, Jean Ward A. B., Stanford, 1914.	Sacramento	Hist. gr.	Delta Gamma
Long, Rameyn Wallace	Ashland, Ore.	M. E.	Sigma Nu
Look, Rachel Graffis A. B., Stanford, 1920.	Sacramento	Engl.	308 Roble
Loomis, Barbara Miller	Pasadena	Engl.	Kappa Alpha Theta
Loomis, Frederick Claxton	Pasadena	M. E.	Alpha Delta Phi
Lopin, Anna Mildred	Sunnyvale	Chem.	Sunnyvale-s
Lormer, Florence Belle	Pasadena	Econ.	116 Roble
[1]Losh, William Jackson A. B., Stanford, 1920.	San Francisco	Phil.	Theta Delta Chi
[5]Love, Charles Ashton, Jr. A. B., Doane, 1914.	Atascadero	Med. gr.	308 Encina
[23]Lovell, Howell	Piedmont	Econ.	117 Encina
[4]Lowe, Isabella Charlotte	Kearney, Neb.	Educ.	217 Roble
Lowers, Virginia Belle	San Francisco	Hist.	Xazmin House
[14]Lownsberry, Eleth Agnes	Pasadena	Educ.	1048 Ramona-p
Lowstetter, Mary Elizabeth	Pasadena	Econ.	118 Roble
Luhrs, George H. N., Jr. A. B., Stanford, 1915, J. D., 1920.	Phoenix, Ariz.	Law gr.	Delta Chi
Lund, Carl Andrew	San Francisco	Econ.	114 Encina
[5]Lund, Henry Joseph, Jr. A. B., Stanford, 1919.	San Jose	Zool. gr.	526 Spencer, SJ-sj
[5]Lund, Ralph Frederick	San Francisco	Chem.	114 Encina
Lundquist, Dell Theodore	Middletown	Chem.	409 Encina
Lundquist, Leonard Cottrell	San Fran.	Geol.	25 Alvarado
[4]Lynch, Alice L.	Los Angeles	Ed. G. A.	10 Cabrillo
Lynn, Harold Frederic	Palo Alto	Geol.	181 Tasso-p
Lyon, Lewis Estes	Los Angeles	Chem.	Delta Chi
[12]Lyons, Frank A. B., Stanford, 1920.	Portland, Ore.	Law	108 Encina
MacAlpine, Archie Burggess	Pasadena	Econ.	Zeta Psi
[5]McAnear, Francis Towne	Sacramento	Law	Stanford Union
MacArthur, Elizabeth A. B., Stanford, 1920.	San Francisco	Fr.	Kappa Kappa Gamma
McBride, RexfordWilliam	SanFrancisco	Bact.	325 Encina

McCague, James Sidney Sunnyside, Wn. M. E. 10 Sequoia
[5]McCall, Margaret Frances SanFrancisco Engl. 250 Roble
McCallum, Ruth Barbara San Francisco Econ. Alpha Omicron Pi
McCann, Sara Boyd Los Angeles Engl. 209 Roble
McCarty, Harold Leland Fellows M. E. 41 Encina
[5]McCarty, Honora C. Stanberry, Mo. Zool. 378 Roble
[1]McCarty, Josephine M. SaltLakeCity,U. Lat. Delta Gamma
A. B., Stanford, 1920.
McCarty, Mary Rita Stanberry, Mo. Econ. 25 Madroño
[1]McClellan,Elizabeth de Levis San Mateo Fr. Chi Omega
McClellan, H.Wallace KlamathFalls,Ore. Geol. 309 Encina
McClintock,Miller L. Palo Alto Engl. gr. 458 Channing-p
A. B., Stanford, 1918, A. M., 1920.
[5]McCombie, Harold Edward SanAndreas Hist. Hotel Palo Alto-p
McCombs, William Clyde Fullerton M. E. 315 Encina
McConaughy, Robt. Edwin Salt Lake, U. Econ. Phi Gamma Delta
Macconel, Dermont N. Honolulu, T. H. M. E. 14 Sequoia
McCormack, Dwight Ferguson Rio Vista Law Delta Chi
[5]McCormick, Eleanor Jean Palo Alto Hist. 1057 Ramona-p
McCormick, Eugene Palo Alto Econ. 222 Byron-p
McCrea, Alexander Wallace Los Angeles Econ. 139 Encina
[14]McCue, Gerald Everett Colusa Chem. 49 Sequoia
[12]McCullough,Alfred Rob't,Jr. SanMateo Econ. Alpha Sigma Phi
[1]McCullough, Charles Harold Visalia Math. 48 Sequoia
McCullough,RaymondV. SaltLakeCity,U. Law gr. College Terrace
A. B., Utah, 1919, J. D., 1920.
McCutchan, John Stanley Keokuk, Ia. Econ. 304 Encina
[5]McDaniel, Bruce William Salem, Ore. Law gr. Kappa Sigma
A. B., Willamette, 1915, J. D., Stanford, 1920.
[5]McDaniel, Ivan G. Salem, Ore. Law gr. Kappa Sigma
A. B., Stanford, 1920.
[234]McDermoth,AlansonW. Aberdeen,Wn. Chem. 767 Everett-p
McDermott, Louis William Los Altos Ed. G. A. Theta Delta Chi
A. B., Stanford, 1920.
[5]McDiarmid, Donald Philip Stockton Law Delta Chi
McDivitt, Edith Bernice Santa Paula Engl. 147 Roble
MacDonald, Harry Felts SanLuisObispo C. E. 310 Encina
McDonald, Robert Emmett, Jr. Berkeley Geol. Sigma Chi
[124]McDonnell, Anne Ethel Portola Sch.Ed.gr. RD1Redw'dCity-rc
A. B., Stanford, 1919.
McDowell, Marie Spencer Portland, Ore. Hist. Roble
[4]McElin, Alice Kansas City, Mo. Hist. gr. Delta Gamma
A. B., Chicago, 1916.

[5]McElin, Margaret Mary A. B., Stanford, 1919.	KansasCity,Mo.	Engl. gr.	237 Roble
McElroy, Floyd Lester	Willits	Law	326 Encina
[4]McFadden, Elizabeth A. B., Stanford, 1901.	San Jose	Bact. gr.	340 S. 16th, SJ-sj
[5]McFarland, Ernest Wm. A. B., Oklahoma, 1917	Phoenix, Ariz.	Law gr.	11 Salvatierra
McFarland, Virginia Trebluh	San Mateo	Econ.	334 Roble
McGee, Elizabeth Mann	Oakland	Econ.	Delta Gamma
McGee, Frederika Prohl	Pasadena	Econ.	106 Roble
[234]McGee, Marguerite Graves A. B., Stanford, 1916.	Pasadena	Sch. Ed. gr.	101 Roble
[23]McGill, George F.	Ft. Scott, Kans.	C. E.	68 Sequoia
[5]McGillivray, Harold Payne	Sacramento	Econ.	Phi Kappa Sigma
[1]McGilvray, Malcolm C. A. B., Stanford, 1920.	Stanford Univ.	Econ.	Escondite Cottage
[12]McGinnis, Sumner Dotts	San Jose	Econ.	354 N. 5th, SJ
[5]McHugh, Glenn Eller A. B., Wisconsin, 1917.	Milwaukee, Wis.	Law gr.	19 Salvatierra
McInerney, Burrell Peter	Dallas, Texas	Geol.	Phi Kappa Psi
McIntosh, F. Russell	Salt Lake City, U.	Geol.	Phi Kappa Sigma
[1]McIver, Walter John Peter	Glendale	M. E.	667 Channing-p
[12]McKague, Bruce Carrol	Altoona, Pa.	Econ.	Kappa Alpha
[1]McKay, Harold Alex.	Rawlins, Wyo.	Econ.	38 Sequoia
[1]McKay, William Ross A. B., California, 1917.	Lemoore	Law gr.	8 Alvarado
[23]Mackel, Vincent Francis	Los Angeles	Econ.	Delta Chi
McKellar, Donald Hill	Lindsay	M. E.	Alpha Sigma Phi
[23]McKelvey, Frank Valentine	San Fran.	Hist.	115 Everett-p
McKenney, Arthur Carol, Jr.	Belvedere	Phyl.	Phi Kappa Psi
[34]McKenzie, Roger Bain A. B., California, 1919.	Santa Monica	Anat. gr.	124 Encina
[12]McKerricher, Daniel Arthur B. A., McMaster, 1902; M. A., Alberta, 1918.	Mayfield	Engl. gr.	1022 Palo Alto
McKinnon, Douglas David	Hollister	Phyl.	Alpha Delta Phi
[5]McLaren, James	San Jose	Chem.	60 Sequoia
[1]MacLaren, John William	Portland, Ore.	Law	Encina
[4]McLaughlin, Evelyn	San Francisco	Chem.	260 Roble
[4]McLaughlin,FrancesAnne	SanFrancisco	Hist.	Roble
McLellan, Edith A. B., Stanford, 1920.	Burlingame	Engl.	Gamma Phi Beta
McMenamin, James Thomas	Sebastopol	Law	321 Encina
[34]McMillan,MaxwellRenvell	Omaha,Neb.	Econ.	Pacific Grove-pg

McMurtry, Wanda Mabel	Lodi	Fr.	Alpha Omicron Pi
[4]McNally, James P.	Stanford Univ.	Econ.	Encina
McNamee, Donald Edwin	Helena, Mont.	Geol.	Delta Upsilon
McNaughton, VirginiaGardner	SanDiego	Hist.	Pi Beta Phi
MacNeill, Charles Donald	Menlo Park	Phyl.	R.F.D. 162, MP-mp
[1]McPherrin, Billie	Sutter	M. E.	718 Bryant-p
[1]McPherson, Robert Bruce	Vallejo	M. E.	59 Sequoia
McQuoid, H. Meta	Santa Clara	Econ.	1231 Lafayette, SC-sc
McSherry, Francis Thomas	Watsonville	Econ.	Stanford Union
McSherry, Joseph Michael	Watsonville	Econ. sp.	Stanford Union
[23]McSkimming, Dent A.	St. Louis, Mo.	Engl.	101 Pope
[5]McTaggart, Garrett Rich	Stockton	Phyl.-Med.	11 Salvatierra
[5]McWilliams, CharlesKirkton	San Jose	Chem.gr.	95 S.Morrison,SJ-sj
A. B., Stanford, 1912, A. M., 1913.			
McWilliams,GraceMadeline	LosAngeles	Pre-N.	Chi Omega
[12]McWilliams, Ramona Inez	Los Angeles	Ed. G. A.	Chi Omega
[12]Macy, Lloyd	Modesto	Chem. gr.	119 Encina
A. B., Stanford, 1919.			
[12]Madden, Francis Martin	Bay City,Mich.	M. E.	535 Encina
Magarian, Gaspar H.	Fresno	Econ.	56 Encina
[5]Mahoney, Daniel Anthony	SanFrancisco	Phyl.	545 Encina
Mahoney, LucilleJosephine	Spokane,Wn.	Bact.	2321 Sac'to, SF-sf
A. B., Stanford, 1920.			
Maier, Herman Louis	Burlingame	Econ.	Burlingame-b
Maillot, Ellmer Ellsworth	Alameda	Geol.	Theta Xi
[12]Makelim, Russell Beckett	Portland,Ore.	Econ.	Alpha Sigma Phi
Mallory, George Henry	Santa Rosa	Bot.	8 Dolores
A. B., Stanford, 1920.			
Mallory, Kirkwood Reeve	Palo Alto	Econ.	253 Fulton-p
Maltby, Joseph McKinley	Long Beach	Law gr.	115 Encina
A. B., Stanford, 1916, J.D., 1920.			
[5]Mandl, Joseph	Phoenix, Ariz.	Hist.	40 Encina
A. B., Stanford, 1920.			
[1]Mangin, Joseph N., Jr.	New Orleans, La.	Chem.	Phi Kappa Psi
Manley, Richard George	Ontario	C. E.	446 Encina
Manners, Verda	Riverside	Engl.	Sigma Kappa
A. B., Stanford, 1920.			
[234]Mantz, Ruth Walker	Redwood City	Engl. gr.	Redwood City-rc
A. B., Stanford, 1919.			
[234]Mapes, Gordon Walter	Palo Alto	Law	827 Lytton-p
[5]Marino, Herbert Daniel	Stockton	Phyl.	222 Encina
Marks, Thomas George	Humboldt, Ariz.	Econ.	Sigma Alpha Epsilon
Marquis, Vernon M.	Twin Falls, Ida.	M. E.	346 Encina

Marriott, Gladys Georgiana	Santa Paula	Engl.	262 Roble
Marsh, Chester	Buhl, Ida.	Phyl.	405 Encina
[1]Marshall, Harley Collins	Garden Grove	Pol. S.	615 Waverley
[4]Marshall, Oscar Chauncey	Chino	Chem.	Redwood City-rc
Marston, Dorothy	San Rafael	Zool.	Chi Omega
Marston, Homer Eugene	San Rafael	Phyl.-Med.	422 Encina
Martin, Edward Richard A. B., Stanford, 1920.	Watsonville	Econ.	126 Encina
Martin, Hugh Bradshaw	Los Angeles	Geol.	Delta Upsilon
[5]Martin, Laurence Butler	Palo Alto	Econ.	629 Emerson-p
[4]Martin, Rae	Nipomo	Hist.	222 S. 7th, SJ-sj
Martin, Walter Talbot A. B., Stanford, 1920.	Phoenix, Ariz.	Phyl.	220 Encina
[4]Martini, Iride Ersila	San Francisco	Med.	323 Hamilton-p
Martinsen, Richard Adalbert	Palo Alto	Engl.	270 Kellogg-p
[1]Marwedel ErnestFerdinand	MenloPark	M. E.	Phi Kappa Psi
Marx, Alberta	Palo Alto	Bact.	357 Kingsley-p
Marx, Guido Van Dusen	Palo Alto	M. E.	356 Lincoln
[23]Mason, George Albert	Olympia, Wn.	Chem.	405 Tasso-p
Mason, Herbert Louis	Fond du Lac, Wis.	Bot.	337 Encina
[1]Mason, Robert Elliott	Oil City, Pa.	Chem.	704 Waverley
Masters, Alfred Richard	Portland, Ore.	Geol.	335 Encina
[1]Masters, Edward Wilbur A. B., Stanford, 1919.	Portland, Ore.	Min. gr.	527 Encina
Mathews, Mary Hersey	Los Angeles	Hist.	331 Roble
Mathews, Samuel Salisbury	Los Angeles	Phyl.	41 Encina
Matson, Theodore, Malvin	Mitchell, Neb.	Chem.	347 Encina
[23]Matthew, John Britton	San Mateo	Educ. G. A.	229 Encina
[23]Mattison, Harry W.	Minneapolis, Minn.	Engl.	56 Sequoia
Mattox, William Henry	Sacramento	Econ. sp.	Delta Chi
Maurer, Mildred Leanor	Alameda	Engl.	Kappa Alpha Theta
Mauzy,MarionVirginia	Plattsmouth,Neb.	Math.	325 Roble
[4]Maxwell, Mary Bliss	Stanford Univ.	Hist.	22 Alvarado
[4]Maxwell, William Clarence	San Mateo	Engl.	San Mateo-sm
[5]May, Raoul Michel	Los Angeles	Zool.	27 Encina
[1]Mayberry, Beatrice Wing A. B., Stanford, 1920.	Alhambra	Math.	Sigma Kappa
Mayberry, Frances Virginia	Palo Alto	Fr.	821 Bryant-p
[12]Mayell, Lionel Vincent	Long Beach	Law	333 Waverley-p
[12]Mayhew, Gladys Elaine	Palo Alto	Ed. G. A.	639 University-p
Maynard, Merlin T. R. D. A. B., Stanford, 1920.	San Jose	Med. gr.	16 Encina
Mead, John Hughes	Los Angeles	Econ.	Zeta Psi
Mead, Myron Wheelock	Chicago, Ill.	Econ.	El Camino

[23]Mechem, Philip	Chicago, Ill.	Law	555 Waverley-p
Meh, William Chauncey	Canton, China	M. E.	405 Emerson
Mehta, Vaikunth P.	Gondal, India	Chem.	80 Sequoia
Meissner, Ruth Louisa	Lodi	Math.	Alpha Omicron Pi
Melcher, Margaret Sybil A. B., Smith, 1916.	New York,N.Y.	Med. gr.	2620 Sac'to, SF-sf
[12]Mendel, Frank A. B., Stanford, 1920.	Campbell	M. E.	328 Encina
[12]Mendonca,MarcelloP.	SaoPaulo,Brazil	M. E.	Theta Xi
Mercer, Andrew	St. Joseph, Mo.	Chem.	218 Encina
[4]Meredith, William John	Palo Alto	Educ.	536 Middlefield-p
Merner, Paul Marcus P.	Los Angeles	Chem.	122 Encina
[12]Merrill, Aurelia Marie	Redwood City	Math.	Redwood City-rc
Merrill, Charles White	Pasadena	Geol.	57 Encina
[5]Merrill, Maud Amanda A. B., Oberlin, 1911.	Owatonna,Minn.	Educ. gr.	329 Roble
[5]Merrill, Ruth Frances	Menlo Park	Engl.	Menlo Park-mp
[5]Merriman, Curtis A. B., Indiana, 1902; A. M., Columbia, 1916.	Cheney, Wn.	Educ. gr.	356 Addison-p
[1]Merritt, Mildred Maurine A. B., Stanford, 1920.	Woodland	Hist.	Alpha Omicron Pi
Merryman, Louis Will	Eureka	Chem.	Sigma Chi
[4]Metzner, Florence Prior A. B., Stanford, 1911.	San Francisco	Educ. gr.	38 Lasuen
[5]Mertz, M. Hawley	Hollywood	Econ.	Beta Theta Pi
Messenger, Ivan Rush A. B., Stanford, 1920.	Jamul	Span.	334 Homer-p
Metcalf, Stanley C. A. B., Stanford, 1920.	Santa Barbara	C. E. gr.	44 Encina
[4]Metcalfe, Stephen B.	Boston,Mass.	Chem.	Zeta Psi
Meyer, Charles Laurence	Sebastopol	M. E.	407 Encina
Meyer, Eibe Hinrich	San Francisco	Chem.	229 Encina
[1]Meyers, Robert Koehler A. B., Stanford, 1920.	Tulare	Law	548 Encina
Midgley, Charles William, Jr.	Oakland	Engl.	Sigma Nu
[12]Miebach,PhilipJohn	Lethbridge,Canada	Econ.	668 Forest-p
Millar, Henry Lloyd	Ogden, Utah	Chem.	334 Encina
Miller, Charles Emerson	Portland,Ore.	M. E.	60 Encina
[5]Miller, Edward Floyd	Cordell, Okla.	Geol.	Phi Gamma Delta
[12]Miller, Elgie Elspeth	San Francisco	Bact.	Pi Beta Phi
Miller, Frederick Harding	So. Pasadena	M. E.	14 Sequoia
[5]Miller,Gertrude Lucille	Los Angeles	Zool.	Sigma Kappa
[4]Miller, Harry David	Stanford Univ.	Educ.	120 Encina
Miller, Harold Jean	Portland, Ore.	Pol. S.	535 Encina

Miller, Holmes Clevenger	Palo Alto	M. E.	1018 Forest Court-p
Miller, Hyman	Los Angeles	Med. gr.	2105 Pine, SF-sf
A. B., Stanford, 1918.			
[3]Miller, John Frederick	St. Anthony, Ida.	Law sp.	313 Kipling
[3]Miller, John S., Jr.	Los Angeles	Law	Encina
[5] Miller, Mary Elizabeth	Redlands	Ed. G. A.	152 Roble
Miller, Russyl Ellwood	St. Anthony, Ida.	Chem.	Theta Xi
Miller, Sarah Kathryn	Los Angeles	Fr.	Sigma Kappa
Miller, Walter George	San Jose	M. E.	18 Hester, SJ-sj
[1]Miller, William Henry	Rifle, Colo.	Law	1024 Emerson-p
Miller, William Stanley	San Jose	Chem.	858 S. 8th, SJ-sj
Millikin, Paul Hynes	Los Angeles	Geol.	410 Encina
[23]Mills, Bertrand Charles	Los Gatos	Econ.	MontezumaSch.,LG-lg
[12]Mills, Dwight William	San Jose	Chem.	97 Route C, SJ-sj
[2]Mills, Elmer Haskell	Harrison, Me.	Law gr.	Hotel Palo Alto-p
B. S., Bates, 1917.			
Mills, Henry Franklin	Long Beach	Econ.	Alpha Sigma Phi
[4]Mills, Lucy Marland	St. Louis, Mo.	Educ. gr.	Roble
A. B., Missouri, 1915.			
[4]Mills, Mary Belle	Stanford Univ.	Educ.	27 Alvarado
Mills, Russell Holbrook	El Paso, Texas	Chem.	219 Encina
Minard, Claude Russell	Fresno	Econ.	306 Encina
Miner, Elliott Steele	Cupertino	Econ.	400 Encina
Minshall, Francis Edward	San Jose	Geol.	Zeta Psi
[4]Minsky, Louis Bernard	Hollywood	Chem.	39 Encina
Mitchell, Clifford L.	San Francisco	Min. gr.	Sigma Nu
B. S., Oregon, 1919.			
Mitchell, Emery Ferguson	Belvedere	Law	Phi Kappa Psi
[12]Mitchell, George Rankin	San Diego	Engl.	30 Sequoia
Mitchell, Homer Irving	Los Angeles	Law	Theta Delta Chi
[1]Mitchell, Ralph John	Tustin	M. E.	Delta Upsilon
[12]Mitchell, Thelma Anita	Oroville	Fr.	Delta Delta Delta
Miyagawa,FrankJ.	Kumamoto-Ken,Japan	Econ. sp.	Japanese Club
Miyamoto, Kazuo	Hakalau, T. H.	Phyl.	Japanese Club
[34]Moeller, Ernest Henry	El Paso, Tex.	Econ.	Pacific Grove-pg
[1]Mohn, Marshall Vantilburg	Ashland, O.	Econ.	444 Encina
[4]Mohr, Everett Kingsley	San Francisco	Phys.	223 Encina
Molloy, Alice Kathryn	Palo Alto	Hist.	500 Palo Alto-p
[1]Monaco, Dante	San Francisco	Phyl.	
Monfort, Marion Strawn	Alva, Okla.	Econ.	219 Encina
Monroe, Donald Brush	Salt Lake City,U.	Engl.	127 Encina
[1]Monroe, H. Morris	Lebanon, O.	Educ. gr.	451 Addison-p
A. B., Stanford, 1916.			

[1]Monroe, Lillian Marie Ph. B., Chicago, 1916.	Oakland	Fr. gr.	Belmont School-b
Monroe, Merton Keith	Monrovia	Law	Alpha Delta Phi
Montague, Richard Aga	Tulare	Chem.	434 Encina
[1]Montague, Robert Rutledge	San Jose	Chem.	642 E. Julian, SJ-sj
[5]Montalban, Heraclio de la Rosa	Iloilo, P.I.	Zool.	827 Ramona-p
[34]Montgomery, Donovan W.	San Diego	Econ.	108 Encina
[5]Montgomery, Robert Bruce	San Jose	Econ.	409 Encina
[3]Moody, Irwin Walter	San Jose	C. E.	305 S. 16th, SJ-sj
Moore, Albert Lee	Phoenix, Ariz.	Econ.	Kappa Sigma
Moore, Carl Allen	Colo. Springs, Colo.	Hist.	Kappa Sigma
Moore, Claude Wilkins	Proberta	Hist.	524 Encina
Moore, James Eugene, Jr. A. B., Stanford, 1920.	Aberdeen, Wn.	M. E.	Alpha Sigma Phi
[3]Moore, John Paul	Modesto	Econ.	403 Encina
Moore, John Pearce	Colo. Springs, Colo.	Econ.	Kappa Sigma
[4]Moore, Norman George	San Diego	Chem.	660 Waverley-p
Moore, Neil Preston A. B., Stanford, 1914, A. M., 1915.	Palo Alto	Chem. gr.	564 Hamilton-p
Moore, Raymond W.	Washington, D. C.	Engl.	441 Emerson-p
Moore, Ruby Strachan	Jerome, Ida.	Econ.	Kingscote
[1]Moothart, Roy J.	Earlimart	M. E.	518 Bryant
[1]Morales, Ulises	Nicaragua, C. A.	Chem.	88 Sequoia
[4]Moreno, Virginia	Memphis, Tenn.	Fr.	22 Alvarado
Morgan, Leslie Lewis	Cosmopolis, Wn.	M. E.	Alpha Tau Omega
Morgan, Lloyd Elmer A. B., Stanford, 1920.	Blockton, Ia.	Econ.	45 Encina
Morgan, Theodore Harding A. B., Stanford, 1920.	Victoria, B.C.	E. E. gr.	26 Sequoia
[5]Morison, Bradley L.	Minneapolis, Minn.	Econ.	528 Encina
[12]Mork, Donald James	Mountain View	Econ.	Mt. View
[3]Morris, Geo. Wm. Evan	Gallup, N. Mex.	Chem.	402 Encina
[5]Morris, John Knox, Jr.	Modesto	Phyl.-Med.	432 Encina
Morris, Kathryn	San Francisco	Fr.	332 Roble
Morris, Ruth Lilian	San Francisco	Psych.	159 Roble
Morris, Ruth Mabel	Oxnard	Lat.	367 Roble
[1]Morrison, Frances Elizabeth	Palo Alto	Zool.	454 Homer-p
Morrison, Katharine Virginia	Winters	Ed. G. A.	Alpha Phi
Morrison, Roland Jackson	Santa Clara	Engl.	1196 Main, SC-sc
Mors, George Leander	Los Gatos	M. E.	111 Encina
[1]Morse, Clifford Obadiah	San Francisco	Chem.	415 Encina
[5]Mortimer, Wendell Reed	Palo Alto	Chem.	344 Tennyson-p

[4]Morton, Charlotte Augusta	San Jose	Ed. G. A. gr.	19 Salvatierra
B. S., Kansas State Agricultural College, 1908; A. M., Stanford, 1917.			
Mosher, Albert	Rawlins, Wyo.	Econ.	Sigma Alpha Epsilon
[23]Mosher, Harold	Mt. View	M. E.	Mt. View-mv
[4]Mosey, Helen D.	Evanston, Wyo.	Educ. gr.	103 Roble
A. B., Stanford, 1919.			
Mosiman, Floyd W.	Aberdeen, S. D.	Econ.	Alpha Sigma Phi
Moulton, John Howard	Los Angeles	Econ.	Delta Kappa Epsilon
[3]Moultrie, Elizabeth Leigh	Los Angeles	Engl.	355 Roble
[12]Moy, Hymn	San Francisco	Engl. sp.	7 Cabrillo
Muchenberger, Leanna M.	Santa Monica	Engl.	Gamma Phi Beta
Mueller, Albert Venlow	Lincoln	Law	40 Encina
Mugg, Fred Hodge	Palo Alto	M. E.	576 Everett-p
Muir, William Whalley	Portland, Ore.	Econ.	Chi Psi
[1]Mulhall, Patrick DeLacy,	Dublin, Ire.	Bot. gr.	11 Salvatierra
Royal College of Science, Dublin.			
Mullin, Wayne Francis	Los Angeles	Econ.	Beta Theta Pi
[12]Mulligan, Ethel Annie	Santa Cruz	Hist.	146 Roble
[34]Mulryan, Henry	Beresford	Geol.	Beresford-b
Murdoch, Christine	KlamathFalls, Ore.	Fr.	337 Roble
[1]Murphy, Arthur Edward	Napa	Engl.	404 Encina
[5]Murphy, Joe Thomas	Tonopah, Nev.	Law	323 Encina
Murphy, Raymond Covert	Salida	Law	404 Encina
Murphy, William Henry	Palo Alto	Phyl.-Med.	551 Addison-p
A. B., Stanford, 1920.			
Murray, Paul Chaney	Lodi	M. E.	Sigma Nu
Murray, Robert	Redwood City	Econ.	139 Encina
Musser, Edgar Hale	Los Angeles	Geol.	Alpha Delta Phi
A. B., Stanford, 1920.			
[234]Myers, Burton Allen	Orange	Med. gr.	2799 Pine, SF-sf
A. B., Kansas, 1919.			
Myers, Edwin Forgan	Portland, Ore.	C. E.	559 Encina
Myers,LaurenceBrouillette	Spokane,Wn.	M. E.	503 Encina
[12]Nagel, Gunther W.	San Francisco	Med. gr.	2174 Green, SF-sf
A. B., Stanford, 1917.			
[5]Nagel, Otto Arno	San Francisco	Econ.	Alpha Tau Omega
[4]Nakamoto, Hayato	Hilo, Hawaii	M. E.	Japanese Club
[1]Narvestad,OlgaMarguerite	Astoria,Ore.	Hist. gr.	Kingscote
A. B., Stanford, 1918.			
Nash, Alfred Warren	Oakland	C. E.	561 Encina
[12]Nash, Lawrence Ward	Polson, Mont.	Geol.	318 Emerson-p
Nathanson, Norman Jesse	San Jose	Econ.	435 Encina
[4]Naylor Blanche	San Diego	Educ.	205 Roble

[5]Neal, Nellie Nevada	New Bedford, Pa.	Educ. gr.	Madroño
A. B., University of Washington, 1912.			
[12]Needham, Beatrice Flett	Palo Alto	Econ.	Cowper Court-p
[12]Needham, Chauncey Everett	Palo Alto	Econ.	Cowper Court-p
A. B., Stanford, 1920.			
Neer, Jacie	Portland, Ore.	Econ.	215 Encina
Neer, Phillip Franklin	Portland, Ore.	Econ.	Alpha Delta Phi
Nef, Kenneth Dunlap	Point Loma	M. E.	Sigma Chi
Neill, Clayton B.	Denair	C. E.	Alpha Tau Omega
Nelson, Elmer John	Clovis	C. E.	310 Encina
Nelson, Frithjof William	Palo Alto	Geol.	750 Channing-p
[5]Nelson Ina May	San Jose	Math. gr.	382 Minnesota,SJ-sj
A. B., Stanford, 1920.			
[12]Nelson, Norman Neil	Cupertino	Econ.	Cupertino-c
Nelson, Oscar Mathian F.	San Jose	Chem.	31 Brooklyn, SJ-sj
[5]Nelson, Roy Frank	Canton, Ill.	Med. gr.	22 Lasuen
A. B., Knox, 1919.			
Nelson, Walter Jerome	Spokane, Wn.	Chem.	114 Encina
[1]Nesbit, Gordon	Pomona	Econ.	Theta Delta Chi
Nesbit, Reed Miller	Visalia	Zool.	424 Encina
[134]Nethercut,RuthAllen	LakeGeneva,Wis.	Bact. gr.	Roble
A. B., Stanford, 1919.			
Neuman, Theodore	Turlock	C. E.	251 Encina
Newland, Harvey Edward	Los Angeles	Chem.	Kappa Sigma
Newman, William, Jr.	Fresno	Chem.	553 Encina
[4]Newnan, Eva May	Mt. View	Lat. gr.	Mountain View-mv
A. B., Stanford, 1915, A. M., 1916.			
[5]Newton, Earl Burdette	Seattle, Wn.	Med. gr.	S.F.Hospital, SF-sf
A. B., University of Washington, 1907, M. S., 1916.			
Newton, Ford Wilson	Taft	Geol.	437 Encina
Nichols, Dorothy Esther	Palo Alto	Hist.	1345 Webster-p
[2]Nichols, Harland A., Jr.	Pearce, Ariz.	Econ. sp.	Grant Rooms-p
[5]Niebel, Herbert Lee	Palo Alto	Med. gr.	520 Cowper-p
A. B., Stanford, 1914			
[23]Niebergall, Herbert A.	Vancouver,B.C.	Phyl.	202 Encina
[4]Nieman, Jessie May	Point Marion, Pa.	Engl.	209 Roble
Niles, Laura	Ames, Ia.	Educ. gr.	Madroño
B. S., Iowa State College, 1915; A. M., Stanford, 1920			
[23]Nisbet, Eugene G.	Upland	Geol.	Theta Delta Chi
[23]Nishi, Takeshi	Tokyo, Japan	E. E. gr.	Japanese Club
Tokyo Imperial University, 1912			
[5]Nivon, Georges	Crest, France	Econ. sp.	359 Encina
[1]Nix, Samuel Aubrey	Pacific Grove	Geol.	545 Bryant-p

[2]Noack, Thea	Sacramento	Psych. gr.	Alpha Phi
A. B., Stanford, 1919			
Noble, Henry Elbert, Jr.	Glendale	Econ.	Sigma Nu
Noble, Margaret Lorain	Los Angeles	Econ.	Chi Omega
[5]Northrop, Robert Starr	San Francisco	Med. gr.	2442 Sac'to, SF-sf
B. S., Michigan Agricultural College, 1901			
[124]Norviel, Scott Lamar	Phoenix, Ariz.	Law gr.	Delta Chi
A. B., Stanford, 1919			
[23]Nowell, George Madison	Tulare	Econ.	210 Encina
Nowell, Nelson Taplin	Honolulu, T.H.	Chem.	Theta Delta Chi
[3]Nugent, Donald Ross	San Jose	Econ.	455 S. 9th, SJ-sj
Nunn, Russell Joseph	Colo.Springs,Colo.	Econ.	24 Sequoia
A. B., Stanford, 1920			
[34]Nye, Helena May	Palo Alto	Engl. gr.	515 University-p
Ph. B., Marietta, 1902; A. B., Stanford, 1905, A. M., 1908			
[4]Oakley, Earl Anson	Auburn, Wn.	Math. gr.	454 Hamilton-p
A. B., Swarthmore, 1913.			
Oberg, Henry Leland	Riverside	Econ.	467 Everett
[5]Ogata, Yaichiro	Kagoshima-ken, Japan	Econ.	Japanese Club
Ogden, Edith Maples	Bakersfield	Hist. gr.	Alpha Phi
A. B., Stanford, 1918, A. M., 1920			
[1]O'Hanly, Robert Emmett	Ottawa,Can.	Engl.	14 Salvatierra
Okamoto, Harumi	Iwakuni, Japan	Econ. gr.	728 Ramona-p.
A. B., Stanford, 1918, A. M., 1920			
[13]O'Keefe, Marjorie Emily	San Jose	Econ.	340 Roble
O'Keefe M. Ethel	Menlo Park	Span.	Menlo Park-mp
[5]Oliver, Henry McRae	Los Gatos	Geol.	Theta Delta Chi
[23]Olmsted, William Pitkin	Los Angeles	Geol.	Delta Upsilon
Olsen, Evelyn Petrene	Mountain View	Ed. G. A.	Mt. View-mv
[23]Olson, Ernest Alvin	Tacoma, Wn.	Law	415 Encina
Olson, Ruth Arlene	Brandon, Colo.	Hist.	201 Roble
[1]Orbeta, Vicente Ortiz	Cebu, P. I.	Pol. S.	Delta Tau Delta
Orcutt, Gertrude Logan	Los Angeles	Fr.	Kappa Kappa Gamma
Ormsby, Herbert Findlay	Bonsall	Econ.	13 Encina
[12]Ormsby, Walter Arwin	Martinez	Law	320 Encina
[1]Osborn, Clarence Gladden	Los Angeles	Econ.	454 Hamilton
[3]Osenbaugh, Merrill Anderson	Chico	Engl.	Delta Chi
[1]Oshima, Tetsuro	Tokyo, Japan	Geol.	Japanese Club
Ostrander, Frank Merced	Palo Alto	Law sp. unc.	271 Univ.-p
[4]Ostrander, Ray Wellington	Ceres	Econ. gr.	Encina
A. B., Stanford, 1919			
[1]Otis, Arthur Sinton	Pasadena	Educ. gr.	Kirkwood Apts.
A. B., Stanford, 1910, A. M., 1915, Ph. D., 1920			

Ott, Kathryn George	Palo Alto	Econ.	1098 Emerson-p
A. B., Stanford, 1920			
Overacker, Horace Emerson	St. Helena	M. E.	309 Encina
[4]Overholtzer, Katherine M.	Claremont	Econ.	107 Roble
[2]Owen, Harry William	Hayward	Econ.	Encina
Owen, Jeffie Louise	Morenci, Ariz.	Engl.	240 Roble
[12]Owen, Lillian Caroline	Morenci, Ariz.	Econ.	254 Roble
A. B., Stanford, 1920.			
[1]Owen, Marie Louise	Palo Alto	Engl.	151 Addison-p
[12]Oyama, Takehiko	Kagoshima, Japan	Econ.	Japanese Club
[1]Pack, Wallace N.	Meridian, Ida.	Hist.	Hotel Alexandria
[12]Packard, Myron Edward	Los Angeles	Geol.	Sigma Chi
[34]Page, Benjamin H.	San Mateo	Zool. gr.	225 Minnie, SM-sm
U. S. Naval Academy			
[134]Page, Mabel Lucy	Pasadena	Hist.	Roble
[13]Pallett, Charles Wesley, Jr.	Portland, Ore.	Econ.	Beta Theta Pi
Palm, Carl David	Kingsburg	Chem.	415 Encina
Palmer, Chester Bonney	Mountain View	C. E.	425 Hope, MV-mv
Palmer, Donovan Elliott	Upland	Econ.	Alpha Sigma Phi
[1]Palmer Rex Allan	Marion, Ore.	Hist.	24 Sequoia
Palmer, Robert Hastings	Palo Alto	Geol. gr.	635 Bryant-p
A. B., Adrian, 1906; A. M., Utah, 1909; J. D., Chicago, 1912.			
[5]Pann, Edwin Huff	Huntington Beach	M. E.	434 Encina
Papazian, Robert Aram	Fresno	Econ.	351 Encina
Parchen, John Edwin	Grandview, Wn.	M. E.	136 Encina
Pardee, Starr Carlton	Riverside	M. E.	Kappa Alpha
A. B., Stanford, 1920.			
Parent, Harold Lewis	Sausalito	Chem.	362 Encina
Park, Gordon Waldo	San Bernardino	Phil.	15 Salvatierra
Park, Lois Kentfield	San Francisco	Bact.	Delta Delta Delta
A. B., Stanford, 1920.			
[4]Parker, Edwin B., Jr.	Houston, Tex.	Engl.	Palo Alto-p
[1]Parker, Frank Harold	Redwood City	M. E.	320 Elm, RC-rc
Parker, Helen Marie	Pasadena	Fr.	336 Roble
Parker, Melvin Francis	Stockton	Geol.	Sigma Chi
[5]Parker, Warner Force	Beverly Hills	Econ.	Delta Kappa Epsilon
Parks, Benjamin Stanley	Los Angeles	Law gr.	Sigma Alpha Epsilon
A. B., Stanford, 1920.			
Parlier, Evelyn Neil	Fresno	Span.	Chi Omega
[2]Parsons, Clarence Wilbur	San Francisco	Min.	225 Encina
A. B., Stanford, 1920.			
[12]Parthum, Edward Fred'k	Phoenix, Ariz.	Chem.	Theta Xi
A. B., Stanford, 1920.			

[12]Patrick, John Clarence	Palo Alto	Ent.	305 Lytton-p
[4]Partridge, Roudi Henri	Santa Monica	Anat.	31 Encina
[4]Pasewalk, Mildred M.	Manitowoc, Wis.	Engl.	257 Roble
Patten, Clement Millard	Los Angeles	Chem.	Phi Gamma Delta
[1]Patten, Julian Hardy	Torrington, Conn.	Econ.	49 Sequoia
[4]Patterson, Dane Lowell B. S., Chicago, 1916.	Palo Alto	Chem. gr.	603 Waverley-p
Patterson, Edith Adeline A. B., Stanford, 1919.	San Jose	Bact. gr.	1423 Sac'to, SF-sf
Patterson, Edwin Alexander	San Fran.	Chem.	Phi Kappa Psi
Patterson, Homer William	Richmond	Law	42 Encina
Patterson, John Wilson	Stockton	C. E.	Kappa Sigma
Patton, Elizabeth Allen	Los Angeles	Hist.	Kappa Alpha Theta
[3]Patton, Robert Taylor	Spokane, Wn.	Econ. sp.	322 Encina
[12]Patton, Stanley Flickinger A. B., Southern California, 1918.	LosAngeles	Med. gr.	31 Sequoia
Paul, Eugene Robinson	Berkeley	Geol.	Sigma Alpha Epsilon
[4]Pauly, Irene Margaret A. B., Stanford, 1918.	Walden, Colo.	Phys. gr.	437 Kipling-p
Paulsen, Helen Carolyn	Palo Alto	Ed. G. A.	602 Waverley-p
[5]Paulsen, Jasper William, Jr. A. B., Stanford, 1920.	Palo Alto	Geol.	602 Waverley-p
[5]Paxton, Jessie Kirkland A. B., Stanford, 1919.	Orange	Engl. gr.	279 Roble
[4]Paxton, Margaret	Fresno	Ed. G. A.	1115 Ramona-p
Payne, Frances Marshman	Santa Rosa	Engl.	225 Roble
Payne, George Harold	Palo Alto	M. E.	325 Hamilton-p
Payne, Helen Elizabeth	Santa Rosa	Hist.	258 Roble
[1]Payne, John Sabin	San Francisco	C. E.	68 Sequoia
Pearce, Cecil Edward	Sites	C. E.	537 Encina
[1]Pearson, Arthur Trook	Orange	Engl.	Phi Kappa Psi
[4]Pearson, Leo Earl	Calgary, Can.	Phys.	437 Kipling-p
[12]Pease, Clarence Howard	Stockton	Hist.	718 Bryant-p
Pease, Muriel	Bozeman, Mont.	Econ.	346 Roble
Peavy, Claude Edward	Orcutt	M. E.	335 Encina
[5]Peckham, Doyle Starr	Watsonville	Engl.	519 Encina
[4]Pedersen, Esther Oletta	Petaluma	Econ.	260 Roble
[12]Pehl, Arthur Hales A. B., Stanford, 1920.	Upland	Econ.	Kappa Alpha
[12]Pehrson, Elmer Walter A. B., Stanford, 1918, Engineer, 1920.	San Jose	Min. gr.	327 Encina
[1]Pierce, Elizabeth	Palo Alto	Chem.	281 Embarcadero-p
Pelouze, Robert Forsyth	EaglePoint,Ore.	Law	Sigma Nu

[4]Pelunek, Norma Agatha	Alma, Wis.	Engl.	261 Roble
[12]Pennington, Thomas Edmund	Belmont	Chem.	Belmont-b
Penwell, Lewis Fred	Los Angeles	Econ.	84 Sequoia
Perkins, Harold W. R.	Stanford Univ.	Chem.	Kingscote
[13]Perkins, Margaret Huldine	San Fran.	Span.	Alpha Phi
[1]Perkins, Russell Chamberlin	Seattle, Wn.	Econ.	Delta Kappa Epsilon
Pernau, Vera Lillian	San Francisco	Fr.	Alpha Phi
Perrin, Minard Douglass	Coronado	Econ.	30 Sequoia
Perry, Edna Elizabeth	Harrisburg, Pa.	Phyl. gr.	Madroño
B. S., Simmons, 1914; A. M., Stanford, 1920.			
[5]Perry, Harold C.	Albuquerque, N.M.	Law gr.	El Camino
A. B., Stanford, 1919.			
Perry, Samuel Salisbury	Los Angeles	Geol. gr.	Phi Delta Theta
A. B., Stanford, 1920.			
Pershing, Richard Scull	Los Angeles	Econ.	Chi Psi
Peters, Gertrude Marian	Los Angeles	Span.	312 Roble
A. B., Stanford, 1920.			
Petersen, Edna Thelma	Santa Barbara	Ed. G. A.	Pi Beta Phi
Petersen Henry Edward	Richfield, U.	Med. gr.	Theta Xi
A. B., Stanford, 1920.			
[3]Petersen, Sigrid Matilda	Lexington, Neb.	Ger. gr.	Madroño
A. B., Nebraska, 1915.			
Peterson, Algot Julius	Kingsburg	Econ.	422 Encina
[1]Petree, Neil Harold	San Jose	Econ.	Delta Tau Delta
A. B., Stanford, 1920.			
[5]Petrini, James	Bakersfield	Law	539 Encina
Phair, Carter Niles	Petaluma	Educ.	Stanford Park
[13]Phair, Ruth Edna C.	Stanford Univ.	Psych.	Stanford Park
Phelps, Davenport Rees	Los Angeles	Phyl.	36 Sequoia
[7]Phelps, Edward Joseph, Jr.	Omaha, Neb.	Econ.	Alpha Delta Phi
[1]Phelps, John Edmund, Jr.	Los Angeles	Econ.	80 Sequoia
[4]Phelps, Roger Sherman	Brookdale	Educ. gr.	315 Alma-p
Ph. B., California, 1897; A. M., Harvard, 1900.			
Phillips Joseph Leslie	Los Angeles	Econ.	Delta Tau Delta
[34]Phillips, Wendell	Palo Alto	Econ. sp.	364 Encina
Phillips, Wendell Keigh	Portland, Ore.	Law gr.	Kappa Alpha
A. B., Stanford, 1917, J. D., 1920.			
Phinney, Alfred Earl	San Diego	Econ.	Kappa Alpha
Piatt, Richard Henry	Palo Alto	Hist. gr.	847 Bryant-p
A. B., Stanford, 1915, A. M., 1920.			
[12]Pickering, Leland Lennell	Fullerton	Law	Kappa Alpha
[5]Pierce, Frederic Ross	Sacramento	Law	Phi Gamma Delta
[234]Pierce, Shelly Nathan	Palo Alto	Econ.	181 Byron-p

Pierson Floyd Bryan A. B., Stanford, 1920.	Turlock	Hist.	247 Encina
Pigott, C. Montagu de R.	San Jose	Chem.	449 So. 16th, SJ-sj
Pigott, Paul Richard	Seattle, Wn.	M. E.	Phi Delta Theta
Pillsbury, Stirling Gainer A. B., Stanford, 1920.	Long Beach	Phyl.-Med.	232 Encina
[23]Pinkston, Clarence Elmer	San Diego	Geol.	Phi Kappa Psi
[5]Pischel,DohrmannKaspar	SanFrancisco	Med. gr.	545 Forest
Pison, Glicerio Tejam	Iloilo, P. I.	Chem.	705 Cowper-p
[4]Pitkin, Horace Collins	Mill Valley	Engl.	128 Encina
Pixley, Florence Adaline	Orange	Engl.	330 Roble
[5]Plaskett, Elmer Webster	Watsonville	Econ.	416 Encina
[12]Platt, Lawrence Thayer	Fresno	Econ.	Chi Psi
[4]Platts, John Milton B. S., Rose Polytechnic, 1899.	Palo Alto	Educ. gr.	667 Channing-p
Plummer, Dorothy Marie A. B., Stanford, 1920.	Centerville	Engl. gr.	Alpha Phi
[3]Podesta, Loyal James	San Francisco	Econ.	406 Encina
Polhamus, Margaret Ellen	Los Angeles	Ed. G. A.	Alpha Phi
Polk, Mary Aline A. B., Indiana, 1915; A. M., Stanford, 1920.	Vincennes, Ind.	Engl. gr.	Madroño
Pollard, Glenn Eugene	Spokane, Wn.	M. E.	Alpha Delta Phi
Pond, Elsie Ada A. B., Sthanford, 1919, A. M., 1920.	San Jose	Educ. gr.	54 N. 11th, SJ-sj
Pond, Frederick Raleigh	Napa	Geol.	352 Encina
Pope, Grace Shaw	Butte, Mont.	Psych.	266 Roble
Pope, William Cecil	Mountain View	Law	Mt. View-mv
[234]Popenoe, Herbert	Pasadena	Psych.	5 Cabrillo
Porter, Gertrude Elizabeth	Boise, Ida.	Hist.	Delta Delta Delta
Porter, Joseph F., Jr.	Kansas City, Mo.	Engl.	Alpha Tau Omega
[5]Porter, Lawrence Eugene	Raton, N.M.	Geol.	559 Cowper
Porter, Robert Reynolds	San Jose	Econ.	393 S. 5th, SJ-sj
Potter, John Alfred, Jr. A. B., Stanford, 1919.	Los Angeles	Min. gr.	522 Encina
[5]Pouppirt, Pearl Sylva	Tulare	Hist.	Chi Omega
Powell, George Townsend	So. Pasadena	Engl.	Kappa Sigma
Prather, Ruth Gra'Delle A. B., Stanford, 1920.	Palo Alto	Engl.	Cowper Court-p
Prather, William Edward	Palms	Hist.	Phi Kappa Sigma
[5]Presho, Nellie Elizabeth	San Jose	Chem.	258 Roble
Preston, Harold Orum	Pacific Grove	Hist.	25 Sequoia
Preston, Mary Isabel A. B., Stanford, 1919, A. M., 1920.	Santa Clara	Educ. gr.	2 Salvatierra

Price, Joseph Pressly	Oakland	M. E.	502 Encina
[23]Price, Melvin	Indio	Law	Alpha Delta Phi
Price, Oser Franklin	Oakland	M. E.	52 Encina
[4]Pride, Nettie Johnson	Pacific Grove	Engl.	Pacific Grove-pg
[23]Prior, Charles Henry	Sheffield, Ill.	Engl.	32 Sequoia
[23]Prior, Joseph Clifford	Sheffield, Ill.	Econ.	32 Sequoia
Pritchard, Walter Ferris A. B., Stanford, 1917.	San Francisco	Med. gr.	2396 Pacific, SF-sf
Pritchett, John Perry	Grafton	Hist.	451 Channing
[4]Probst, Mary Ph. B., Chicago, 1918.	Arkansas City, Kan.	Educ. gr.	239 Roble
Proctor, Hester Elizabeth	Palo Alto	Fr.	433 Melville-p
Proctor, Hudson Milton	San Diego	Psych.	217 Encina
Prosser, M. Elizabeth A. B., Utah, 1919.	SaltLakeCity,U.	Econ. gr.	366 Roble
Prout, Ralph Benton	SaltLakeCity,U.	Econ.	Beta Theta Pi
Pryor, Roy Jay	Manteca	Educ.	Menlo Park
Puls, Louis George A. B., Stanford, 1920.	Clinton, N. Y.	C. E.	231 Encina
[12]Purdy,DonaldFreder'k A. B., Stanford, 1920.	Vancouver,B.C.	M. E.	228 Encina
[5]Purmort, Charles Elliott	Des Moines, Ia.	Econ.	Beta Theta Pi
Purvis, Ralph Clarke	Tipton, Ind.	Econ.	660 Waverley-p
[1]Puterbaugh, Bennett Ewing	Pasadena	M. E.	318 Encina
Putnam, Cecil Monroe	Alameda	Hist.	Sigma Nu
[5]Quayle, Ernest Harrison	Rea, Ida.	Bot.	Stanford Park
Quigley, Dorothy	El Paso, Tex.	Engl.	Kappa Alpha Theta
Quinby, James Abram A. B., Stanford, 1919.	San Jose	Law gr.	105 Encina
Quinn, Emmett A.	Grand Junction, Colo.	Chem.	Phi Gamma Delta
Quirmbach, Arthur Herman	Needles	Chem.	250 Encina
[5]Radcliffe, Thomas D. A. B., Stanford, 1920.	Birmingham, Ala.	Geol.	525 Encina
[1]Rakestraw, Norris Watson A. B., Stanford, 1916, A. M., 1917.	Palo Alto	Chem. gr.	330 Embarcadero-p
[1]Ramirez, Joaquin Belza A. B., Stanford, 1919.	Sorsogon, P. I.	Span. gr.	705 Cowper-p
[1]Ramos, Horacio	Corralitos	Chem.	532 Homer-p
[12]Ramsey, Anna Frances	Stanford Univ.	Engl.	20 Lasuen
Randall, Charles Edgar, Jr. A. B., Stanford, 1920.	San Jose	Econ.	145 No. 5th, SJ
Rankin, Wallace Edmunds	Glen Ellen	Hist.	108 Encina
Rasmussen, Elmer Christian	MorganHill	M. E.	Sigma Chi

[1]Ratekin, Rollie Burns	McFarland	Econ.	62 Sequoia
Rathbun, Harry John	Stanford Univ.	E. E. gr.	338 Encina
A. B., Stanford, 1916, Engineer, 1920.			
Ratner, Ezra	San Francisco	Phyl.	43 Encina
Ratner, Reuben	San Francisco	Phyl.	43 Encina
Rawhouser, John Gambell	Willows	C. E.	356 Coleridge-p
[4]Rawlins, Aubrey Gatliff	Willows	Chem.	28 Alvarado
[4]Ray, James Chandler	Palo Alto	Geol. gr.	805 Hamilton-p
A. B., Stanford, 1914, A. M., 1915.			
Reagan, Ruby Lorene	Hayden, Ariz.	Econ.	170 Roble
Reavis, James Ogden	Bakersfield	Econ.	Phi Delta Theta
[5]Record, Harold J	Cape Elizabeth, Me.	Econ.	128 Encina
Redeker, Ivan Monroe	Palo Alto	M. E.	365 Channing-p
[2]Redwine, Wendell Earle	Stanford Univ.	Law gr.	Delta Chi
A. B., Stanford, 1919.			
Reed, Myron Nelson	Portland, Ore.	Econ.	Beta Theta Pi
Reeder, Fay Spencer	Fresno	Econ.	Delta Chi
Reese, Marie-Louise	Modesto	Fr.	Roble
Rehfuss, Carl William	Salem, Ore.	Chem.	318 Encina
[4]Rehm, Leonard Joseph	Sonora	Econ. gr.	18 Encina
A. B., Stanford, 1917.			
Reid, Carol Wheeler	Los Angeles	Math.	Delta Gamma
Reid, Katherine	Los Angeles	Econ.	Delta Gamma
Reid, Robert Henry, Jr.	Los Angeles	Econ.	Theta Delta Chi
[34]Reid, Walter J.	Lake Toxaway, N.C.	Econ. sp.	1150 Byron
[5]Reilly, Hubert Bernard	Portland, Ore.	Chem. gr.	508 Encina
A. B., Stanford, 1918.			
Reinhold, Lisle W.	Montrose, Colo.	Geol.	Delta Upsilon
[5]Reiterman, Carl	Palo Alto	Educ.	305 Cowper-p
Remington, Robert H.	Watertown, N.Y.	C. E.	251 Encina
A. B., Stanford, 1920.			
[23]Renwick, William Hedley	Palo Alto	Chem.	1545 Waverley-p
[234]Repass, Merle Marion	San Jose	Geol.	203 Encina
[1]Repath, Charles Jasper	Los Angeles	M. E.	Delta Upsilon
Retterath, Oma Lillian	Williams	Math.	Alpha Omicron Pi
[1]Reynolds, James McPherson	Pomona	Econ.	Theta Delta Chi
[5]Reynolds, Jere Thomas	Los Angeles	Law gr.	Kappa Alpha
A. B., Stanford, 1920.			
[4]Reynolds, O. Edgar	Guthrie, Ill.	Educ. gr.	Kappa Sigma
A. B., Illinois, 1911; A. M., Columbia, 1917.			
[1]Reynolds, Robert Louis	Long Beach	Econ.	210 Encina
[234]Rhoades, Ralph Omer	Miami, Okla.	Geol.	418 Ramona-p
[1]Rhodes, Bernice Grace	Berkeley	Bact. gr.	2620 Sac'to, SF-sf
A. B., Stanford, 1919.			

Rhodes, Mason Marion Reno, Nev. Chem. Sigma Nu
A. B., Stanford, 1920.
Rhodes, Orlando Hunter SantaMonica Econ. 426 Encina
Rice, Laurence Eugene Compton Bot. 450 Encina
[4]Rich, Murray Weir Montclair, N.J. Engl. 183 Lytton-p
[23]Rich, Theodore Frederick Lancaster Zool. University Park
[1]Rich, Willis Horton University Park Zool. gr. University Park
A. B., Stanford, 1909, A. M., 1918.
Richards, Lloyd Sidney San Jose M. E. 344 Encina
[5]Richards, Philip Hand Los Angeles Law gr. Beta Theta Pi
A. B., Yale, 1917.
[2]Richards, Roy Lee Stanford Univ. Econ. 329 Encina
A. B., Stanford, 1920.
[12]Richardson, Alan C. Washington,D.C. Chem. 13 Salvatierra
Richardson, Paul Eddy Glendale M. E. Sigma Chi
[5]Richardson,RémondW. Washington,D.C. Geol. 63 Sequoia
Richardson,RobertD. Waynewood,Okla. Econ. 118 Encina
Richardson,WilloughbyP. Portland,Ore. Med. gr. 2396 Pacific, SF-sf
A. B., Stanford, 1917.
Richmond, Carroll L. WallaWalla, Wn. Econ. Phi Kappa Psi
Richter, Charles Francis Los Angeles Phys. gr. 349 Encina
A. B., Stanford, 1920.
[12]Richter, Margaret Rose Los Angeles Engl. gr. Madroño
A. B., Stanford, 1917, A. M., 1918.
Riddell, Douglas H. San Francisco Engl. Alpha Sigma Phi
[4]Riddle, Penn Dallas, Tex. Math. gr. 46 Encina
M. D., Baylor, 1919.
[1]Rideout, Charlotte Wythe San Jose Engl. gr. 831 Kipling-p
A. B., College of the Pacific, 1912; A. M., Stanford, 1920.
Ridley, Daniel Graves San Jose Pol. S. 512 Cherry, SJ-sj
[1]Riebe, Herman Paul Wausau, Wis. Chem. 425 Encina
Riggs, Dorothy Marie Fresno Fr. gr. 247 Roble
A. B., Stanford, 1920.
[12]Righter, Cornelius Erwin Campbell Hist. 113 Encina
Rimpau, Edward Lorraine Hollywood Law 324 Encina
Rimpau, Genevieve Agnes Los Angeles Span. gr. 180 Roble
A. B., Pomona, 1919.
[12]Ringle, Arthur Levi Greeley, Colo. Zool. 52 Sequoia
[4]Ripley, Cora Annette San Jose Educ. 158 Roble
[5]Risdon,Anita Starr Independence,Kan. Econ. 271 Roble
Ritchie, Kenneth Sinclair Portland, Ore. Chem. 504 Encina
[1]Robbins, Albert Culbertson Los Angeles Econ. Delta Upsilon
A. B., Stanford, 1920.

[23]Robbins, Catherine Jennie — Los Alamos — Math. — 369 Forest-p
[1]Robbins, George Percival — Corvallis, Ore. — Chem. — 353 Lytton-p
[23]Roberts, Fred Gordon — Berkeley — M. E. — Encina
Roberts, Holly Helen — Stanford Univ. — Ed. G. A. — Alpha Omicron Pi
A. B., Stanford, 1920.
[3]Roberts, Jess McMillen — Los Angeles — Engl. — 223 Cowper-p
[12]Roberts, John Leo — Malad, Ida. — Math. — 410 Lytton-p
[5]Roberts, Marguerite L. — Stanford Univ. — Hist. — Alpha Omicron Pi
Roberts, Milton Louis — San Diego — Econ. — Sigma Chi
[5]Roberts, Perry Buchanan, Jr. — Palo Alto — Geol. — 250 Churchill-p
Roberts, Seymour Jack — Los Gatos — Phil. — Alpha Sigma Phi
Robertson, Avery Ellery — San Francisco — Geol. — Theta Xi
Robertson, Donald Logan — Modesto — Econ. — 50 Sequoia
[5]Robertson, Margaret M. — Redwood City — Phyl. — Redwood City-rc
[1]Robinson, Bernard Buckley — Butte, Mont. — Law — 113 Encina
A. B., Stanford, 1920.
Robinson, Floyd Amos — Gilroy — Econ. — 438 Encina
Robinson, Jere W., Jr. — Boise, Ida. — M. E. — 201 Encina
Robinson, John Henry, Jr. — Prescott, Ariz. — M. E. — 329 Encina
[5]Robinson, John Randall — Hayward — Hist. — Kappa Sigma
Robson, Dorothy Joyce — Campbell — Hist. — 315 Roble
Rochet, Euphemia — Portland, Ore. — Math. — 253 Roble
[1]Rochfort, Marie Caroline — San Anselmo — Hist. — Alpha Omicron Pi
A. B., Stanford, 1920.
[5]Rockwell, John Gundersen — Hubbard, Neb. — Educ. gr. — 375 Hawthorne-p
A. B., Stanford, 1918.
[4]Rodigan, Mary Virginia — Racine, Wis. — Engl. gr. — 253 Roble
A. B., Wisconsin, 1917.
[4]Rogers, Alice Clare — Letohatchie, Ala. — Ed. G. A. — 209 Roble
[5]Rogers, Frederick Rand — San Jose — Educ. gr. — 233 Addison-p
A. B., Stanford, 1920.
Rogers, Margaret — San Bernardino — Bact. — 300 Roble
[23]Rogers, Marion Llewellyn — Long Beach — Econ. — Delta Delta Delta
A. B., Stanford, 1920.
Rogers, Robert Greene — San Jose — Geol. — Delta Upsilon
[5]Rogers, William Lester — Hayward — Phyl. — Kappa Sigma
Rohner, Arnold John — Palo Alto — M. E. — Newell Road-p
Rohwer, Albert — Ft. Calhoun, Neb. — Phil. — 460 Homer-p
[4]Romney, George Samuel — Rexburg, Ida. — Educ. gr. — 11 Salvatierra
A. B., Utah, 1917.
Roosman, Paul Ferdinand — Kingsburg — Chem. — 303 Encina
[12]Root, William Thos., Jr. — Stanford Univ. — Educ. gr. — 2 Salvatierra
A. B., Stanford, 1912, A. M., 1913, Ph. D., 1920.

Rose, Milton I.	Venice	Zool.	24 Alvarado
Rosenbaum, Mervin Fred	SanFrancisco	Hist.	558 Encina
Rosenblatt, Millard S.	Portland, Ore.	Phyl.	534 Encina
Rosenblum, Samuel J.	SaltLakeCity,U.	Econ.	4 Sequoia
Ross, Blanch Emline	Redwood City	Span.	305 Roble
Ross, Dean Ralph	Alhambra	Econ.	59 Encina
[234]Ross, Eldridge Claiborne	Tonopah,Nev.	Chem.	181 Forest-p
[1]Ross, Felix Bruno	Palo Alto	Educ. gr.	846 Bryant-p
A. B., Buena Vista College, 1911; A. M., Iowa, 1913.			
Ross, James Gordon	Santa Barbara	Econ.	335 Encina
[4]Roth, Adele M.	Stanford Univ.	Fr. gr.	Roble
A. M., California, 1919.			
[4]Roth, Emma Katherine	Berkeley	Ger. gr.	182 Roble
A. B., Stanford, 1901.			
[12]Roth, Marian Helen	Los Angeles	Psych.	Delta Delta Delta
A. B., Stanford, 1920.			
Rothwell, Craig Selby	Mayfield	M. E.	Mayfield-m
[23]Rouse, Marshall Keene	Mankato,Minn.	Chem.	244 Encina
[23]Rousselot, Harbin Michon	Oakland	Econ.	Kappa Alpha
Rousselot, Norman Auguste	Oakland	Geol.	Kappa Alpha
Rowe, Howard Leslie	San Jose	Hist. gr.	727 Emory, SJ-sj
A. B., College of the Pacific, 1919.			
Rowe, Merrill Wray	Long Beach	Econ.	Chi Psi
Rowland, Gilford Glenn	Blackfoot, Ida.	Pol. S.	125 Encina
Royden, Herbert N., Jr.	San Mateo	M. E.	227 Encina
[2]Rupe, Floyd Pressley	Willits	Econ.	326 Encina
Rupley, Joseph William	Spokane, Wn.	Engl.	140 Encina
Russ, Glenn Allen	Carlotta	Engl.	108 Encina
[1]Russell, Dennison Alexander	Palo Alto	Phil. gr.	2520 Bush, SF-sf
A. B., Stanford, 1917, A. M., 1920.			
Russell, Donald Joseph	San Leandro	C. E.	Delta Tau Delta
Russell, James Lowell	Palo Alto	Econ.	Phi Gamma Delta
[5]Russell, William Otis	Los Angeles	Law. gr.	Kappa Sigma
A. B., Stanford, 1919.			
[124]Rutherford, Wm. Robert	SanFrancisco	Educ. gr.	531 Cowper-p
A. B., Oregon, 1919.			
Rutledge, Ralph Winston	Colusa	Econ.	Delta Tau Delta
[1]Ryan, Rupert Russell	Oakland	Econ.	245 Encina
Sadler, Marjorie Elizabeth	Palo Alto	Math.	102 Roble
Saier, Adelheid Emilia	Fresno	Econ.	Chi Omega
[1]Sakasegawa, Nijiro	Kagoshima, Japan	Econ. gr.	Japanese Club
Tokyo Imperial University, 1916.			
Salsbury, Helen Eva	San Francisco	Fr.	342 Roble
Sampson, Joseph Abraham	SanFrancisco	Med. gr.	2105 Pine, SF-sf
B. S., California, 1918.			

[3]Sampson, Richard Hunt	Los Angeles	Econ.	56 Sequoia
[5]Sanborn, Lewis Hampton	Benicia	Phyl.-Med.	501 Encina
Sanden, Eugene Stuart	Helena, Mont.	Law	417 Encina
A. B., Stanford, 1920.			
Sandretto, Paul John B.	Fosteria	M. E.	352 Hanover, M
Sanford, Dudley Phelps	San Jose	Phyl.	274 S. 13th, SJ-sj
[12]Sanger, Clyde William	Los Angeles	Hist.	Delta Upsilon
[34]Sansom, Clarence	Calgary, Can.	Educ. gr.	25 Salvatierra
A. B., New Brunswick, 1905.			
Sanson John Baptist	Toronto, Can.	Geol.	635 Bryant
[34]Sant, George Renshaw	San Jose	Econ. sp.	Zeta Psi
Sapero, Kalmen Yokum	Denver, Colo.	Econ.	64 Sequoia
Sappington, Emmett Earl	Watsonville	Phyl.	43 Sequoia
Sargent, Aaron More	San Francisco	M. E.	129 Encina
[3]Sargent, Edward More	San Francisco	M. E.	436 Encina
Sargent, Virginia	Los Angeles	Chem.	Delta Gamma
[12]Saunders, Cyril Everett	Manilla, Ia.	Law. gr.	637 Gilman-p
A. B., Iowa, 1918.			
Saunders, Lowell Waller	Red Bluff	Geol.	Phi Kappa Sigma
Sawyer Dwight Lewis	Gardena	Geol.	704 Waverley-p
A. B., Stanford, 1920.			
Sayre, Ruby	Tulare	Ed. G. A.	Chi Omega
Schaf, Leonard Carl	Los Angeles	C. E.	265 Coleridge-p
[23]Schafer, Frank	Oakland	Bot. sp.	322 Encina
[12]Schaffnit, Robert Leonard	Bakersfield	M. E.	12 Sequoia
[5]Schaper. Edward Andrew	Tacoma, Wn.	Med. gr.	S. F. Hosp., SF-sf
A. B., College of Puget Sound, 1917.			
[5]Schaufelberger, Wm. M.	Hastings, Neb.	Chem. gr.	319 Encina
A. B., Stanford, 1918, Engineer, 1920.			
Scheid, Aubrey Anthony	Los Altos	Chem.	Los Altos-la
[12]Schein, Sidney	San Jose	Chem. gr.	327 Encina
A. B., Stanford, 1918, Engineer, 1920.			
Scherf, Elmer Emil	San Jose	Econ.	403 Encina
Schick, Albert La Velle	Spokane, Wn.	Chem.	540 Encina
[14]Schilling, Dorothy Cecelia	Palo Alto	Engl.	551 Lytton-p
[1]Schindler, Willard James	Flint, Mich.	Hist.	263 Churchill-p
[4]Schlein Walter Charles	Fresno	Educ.	121 Encina
[8]Schlesinger, James Wm. Lee	San Fran.	Econ.	Sigma Nu
[4]Schmidt, Louise Guerrier	Redwood City	Engl. gr.	Redwood City-rc
A. B., Oberlin, 1911; A. M., California, 1915.			
[12]Schneff, Arthur H.	St. Louis, Mo.	Greek	55 Encina
Schneider, Phillips Sumner	Berkeley	Econ.	Zeta Psi
Schnier, Jack Preston	San Francisco	C. E.	Phi Gamma Delta
A. B., Stanford, 1920.			

Schnitzer, Ralph S. Houston, Texas Chem. 30 Encina
[13]Schroeder, Hans Emil A. SanFrancisco Med. gr. 649 Kearny, SF-sf
A. B., California, 1918.
[12]Schultz, Lawrence Henry Allison, Ia. Engl. 372 Forest-p
Schumacher, John Los Angeles Law Phi Gamma Delta
Schuster, Helen Los Angeles Ger. 371 Roble
Schwab, Lloyd Elwin Alturas C. E. 315 Encina
Schwartz, Gustav Sutro San Francisco Econ. 429 Encina
A. B., Stanford, 1920.
[4]Schwartz, Laura Virginia San Jose Engl. gr. 103 Randol, SJ-sj
A. B., College of the Pacific, 1920.
Schwartz, William Francis Santa Monica Econ. 426 Encina
[124]Schwartz, William Leonard San Jose Fr. gr. 103 Randol, SJ-sj
A. B., Ohio Wesleyan, 1910; A. M., Stanford, 1920.
Scofield, Norman McCray Palo Alto M. E. Theta Xi
Scott, Bertha Marshall Cupertino Ent. 156 Roble
[5]Scott, Caleb Emlen San Mateo Sch. Ed. gr. 320 Elm, SM-sm
A. B., Stanford, 1917.
[1]Scott, Hamlet Woodburn Oakland Law Alpha Delta Phi
Scott, Josephine Los Angeles Hist. 338 Roble
[12]Scott, Lorin Marcellus Los Gatos M. E. Phi Kappa Psi
Scott, Margaret Hamilton Cupertino Ed. G. A. 177 Roble
[1]Scott, Odell Gabriel Long Beach Engl. Chi Psi
[23]Scott, Raymond Robert Selma Zool. 422 Encina
Scovel, George Kenneth Palo Alto Law. gr. 532 University-p
A. B., Stanford, 1916, J. D., 1920.
Scribner, Harold Wyndham San Fran. M. E. 40 Sequoia
Seager, Helen Elizabeth Redlands Econ. 381 Roble
A. B., Stanford, 1920.
[5]Seaman, Wesley Albert Marshfield, Ore. Law Beta Theta Pi
Searcy, Helene Wilhelmina Durango, Colo. Bact. 204 Roble
Searcy, Ruth Isabelle Durango, Colo. Engl. 206 Roble
A. B., Stanford, 1920.
[134]Sebastian, Charles Francis Los Angeles Med. gr. 2229 Webster, SF-sf
A. B., Stanford, 1919.
Seelig, Miriam Los Angeles Econ. 369 Roble
Seeman, Carmen Analouise Stanford Univ. Ger. Gamma Phi Beta
A. B., Stanford, 1920.
[12]Segovia, Remigio G. Ibajay, P. I. Pol. S. 3 Alvarado
Seib, Lester Leo Hollywood Engl. Alpha Delta Phi
Seibert, Olga Luella Long Beach Engl. Roble
Seitz, Roland Peter San Francisco Med. gr. 2871 Clay, SF-sf
A. B., Stanford, 1919.
Selna, Adeline Aurora Stockton PreN. Roble

Semino, Angelo	Mountain View	M. E.	Mountain Vew-mv
Senior, Clair Marcil	Salt Lake City, U.	Pol. S.	59 Sequoia
Senior, Ruth Edith	Salt Lake City, U.	Engl.	368 Roble
Sentney, Charles Ralph	Santa Ana	Econ.	Sigma Chi
[12]Senton, Alberta A. B., Minnesota, 1910.	Streator, Ill.	Educ. gr.	7 Salvatierra
[5]Sentous, Alvin Alphonse	Los Angeles	Geol.	Delta Kappa Epsilon
Serrurier, Lawrence R.	Portland, Ore.	Chem.	510 Encina
[5]Sewall, Russell Williams	Portland, Ore.	Law	Chi Psi
[1]Sewell, Abner Willard	Tuscarora, Nev.	Chem.	Sigma Alpha Epsilon
Sewell, Charles Alvin	Elko, Nev.	Econ.	Sigma Alpha Epsilon
Shah, Aurang	Peshawer, India	Chem. sp.	536 Encina
Shaler, Marian	Waupun, Wis.	Psych.	380 Roble
[1]Shallman, Gustaf Helmer	Boise, Ida.	C. E.	139 Encina
Shamberger, Hugh Allan	Payette, Ida.	C. E.	29 Encina
[23]Shamberger, Ralph Julian	Payette, Ida.	Econ.	1215 Emerson
Sharp, Baxter Rice	San Francisco	Econ.	Theta Delta Chi
Sharp, Helen Elizabeth	Palo Alto	Chem.	951 Hamilton-p
Shaw, Elton Sutherland	San Jose	M. E.	Delta Upsilon
[5]Shaw, Frank Leslie	Omaha, Neb.	Phys.	27 Sequoia
[1]Shaw, Hazel Marie Ph. B., Missouri, 1917.	Kansas City, Mo.	Engl. gr.	Madroño
[4]Shaw, Perry Mason	Berkeley	Econ.	125 Encina
[3]Sheahan, Edward K.	Ocean Falls, B.C.	PreL.	Beta Theta Pi
Shedd, Margaret Cochran A. B., Stanford, 1920.	San Francisco	Pol. S.	Alpha Phi
Sheffield, Carlton Allyn	Long Beach	Engl.	32 Encina
Sheldor., Frances Elizabeth	SanFrancisco	Hist.	Gamma Phi Beta
Sheldon, Willard Hooker	Palo Alto	Law	Delta Kappa Epsilon
[23]Shelton, Leigh Claiborne A. B., Stanford, 1917.	Los Angeles	Sch. Ed. gr.	Pi Beta Phi
[1]Shepardson,DwightEmerson A. B., Stanford, 1917.	San Fran.	Med. gr.	2401 Sac'to, SF-sf
[5]Shepardson, Ruth Thygeson A. B., Minnesota, 1916.	San Fran.	Med. gr.	2401 Sac'to, SF-sf
[4]Shepherd, David A. B., Utah, 1918.	Paris, Ida.	Educ. gr.	Theta Chi
[234]Shepherd, Harold A. B., Stanford, 1919.	Paris, Ida.	Law. gr.	El Camino
Shepherd, Theodore H.	Hollywood	M. E.	22 Sequoia
[1]Sheridan, Edward Philip	Palo Alto	Law	1134 Emerson-p
Sherman, Mark	San Francisco	Chem.	358 Encina
Sherman Richard Wade	Palo Alto	Geol.	427 Webster-p
Sherrard, Dorothy Addine	Los Angeles	Engl.	Alpha Phi

Shiels, William Chas. E.	San Francisco	PreL.	Phi Delta Theta
[1]Shikamura, Takeo	Campbell	Min.gr.	RD1,B180,Campbell-c
Tokyo Imperial University, 1908.			
[12]Shipman, Alba Milton	Aberdeen, Wn.	Econ.	107 Encina
[1]Shipp, Fredric Thomas	Superior, Wis.	Econ.	Delta Chi
Shipp, Kenneth James	Superior, Wis.	Econ.	427 Webster-p
Shlaudeman, Karl Whitman	Pasadena	Law	Chi Psi
Shlaudeman, Robert	Pasadena	Econ.	Delta Kappa Epsilon
Show, Joseph Henry	Palo Alto	Geol.	353 Melville-p
[4]Showalter, Noah David	Cheney, Wn.	Educ. gr.	8 Alvarado
A. B., Washington State College, 1898, A. M., 1908.			
[12]Shriver, Edwin Bernard	Eureka, Utah.	Econ.	Theta Xi
Sibley, John Thornton	Los Angeles	Econ.	Phi Gamma Delta
Siddle, Robert William	Cody, Wyo.	Econ.	Menlo Park
[12]Sifford, Roy D.	Susanville	Law. gr.	234 Encina
A. B., California, 1917.			
[2]Sikes, Herbert George	Merced	Educ.	635 Bryant-p
Silen, Bertrand Harold	Boise, Ida.	Econ.	Kappa Alpha
Silveira, Joseph Theodore	Sebastopol	Geol.	317 Encina
[1]Simmons, Josephine Osmond	Palo Alto	Econ.	625 Hamilton-p
[5]Simmons, Rouse	Portland, Ore.	Geol.	Chi Psi
[2]Simmons, Samuel Bradford	Sacramento	C. E.	84 Sequoia
[23]Simon, Dewey Oscar	Ely, Nev.	Econ.	416 Encina
[1]Simons, Franklin Joseph	Alhambra	Econ.	Delta Upsilon
Simonton, Dorothy Jean	Wendell, Ida.	Hist.	261 Roble
[12]Simpson, Beverly	San Francisco	Phyl.	337 Encina
[12]Simpson, Charles Cecil	Cashmere, Wn.	Hist.	24 Sequoia
[1]Simpson, Fay Howard	Cashmere, Wn.	Hist.	275 Hamilton
[5]Simpson, John Edwin C.	Fresno	Law	539 Encina
[5]Simpson,Laura Elizabeth	StanfordUniv.	Engl. gr.	Kingscote
B. S., Carleton, 1910.			
Simpson, Matthew Cheney	Long Beach	Law	Alpha Sigma Phi
Sims, William James Ross	Bisbee, Ariz.	Engl.	Kappa Sigma
[3]Sinclair, Aileen Higgins	San Mateo	Engl.	245 W.Poplar, SM-sm
A. B., Stanford, 1920.			
Sinclair, Jesse Donald	Lakeville	M. E.	Theta Delta Chi
[3]Singh, Jalwant	Amritsar, India	Phyl.	4 Lasuen
[234]Single, Carroll John	Stockton	Law. gr.	Zeta Psi
A. B., Stanford, 1917.			
[1]Skene, Donald Alexander	Portland,Ore.	Engl.	Chi Psi
Skinner,EdwardDiviere,Jr.	Los Angeles	Chem.	33 Sequoia
[1]Slater, Arthur Henry	Berkeley	Bot.	130 Encina
Slater, Chester Herrick	Omaha, Neb.	Econ.	Phi Gamma Delta

[4]Slater, Kenneth N.	Mountain View	Educ.	Mountain View-mv
[5]Sloan, George Westall	Palo Alto	Econ.	815 Cowper-p
[5]Sloan, Mary Caldwell	Phoenix, Ariz.	Zool.	Sigma Kappa
Sloan, Thomas Kemp	Mountain View	Chem.	Mountain View-mv
[1]Slonaker, Clifton Stratton	PaloAlto	Econ.	334 Kingsley-p
[12]Sloss, Leon, Jr.	San Francisco	Econ.	429 Encina
[12]Small, Edwin Warren	Palo Alto	M. E.	921 Scott-p
[1]Smedberg, Joseph Duncan	Oakland	C. E. sp.	Govt. Hospital-p
[14]Smith, Anita Genevieve	SanLuisObispo	Span.	228 Roble
[12]Smith, Aubrey Miller A. B., Stanford, 1920.	Chico	E. E. gr.	26 Sequoia
Smith, Carl Victor	Oakland	Law	29 Encina
Smith, Charles Gordon	Campbell	Econ.	224 Encina
Smith, Charles Herbert	Saratoga	M. E.	Saratoga-s
[23]Smith, Dorothy	Ithaca, N. Y.	Hist.	Kappa Alpha Theta
Smith, Earl Martin A. B., Stanford, 1920.	Richfield	Econ.	545 Bryant-p
[3]Smith, Elfreda Allen A. B., Stanford, 1920.	Seattle, Wn.	Hist.	404 Everett-p
[5]Smith, Elizabeth Baldwin A. B., Bryn Mawr, 1915.	Cincinnati, O.	Educ. gr.	12 Dolores
[4]Smith, Earl Duane Ph. B., Wisconsin, 1920.	Douglas, Ariz.	Educ. gr.	25 Salvatierra
[4]Smith, Edwin Oscar A. B., McKendree, 1908, A. M., 1909.	Pasadena	Psych. gr.	Encina
Smith, Florence Madeline	Los Altos	Econ.	R. A., B. 536, MV-mv
[5]Smith, Forster Rand	Palo Alto	Law	1335 Cowper-p
Smith, Francis Albert	Palo Alto	Chem.	600 Lincoln-p
Smith, Frederic Harrison West Point Military Academy, 1903.	Troy, O.	Chem. gr.	329 Hawthorne-p
Smith, Harrison Painter A. B., Stanford, 1920.	Los Angeles	Chem. gr.	119 Encina
Smith, Irving M.	Palo Alto	Pol. S.	Mayfield-m
Smith, James Parley	Prescott, Ariz.	Span.	329 Encina
Smith, J. Howell	Pasadena	Econ.	Zeta Psi
[3]Smith, Lemuel Coats, Jr.	El Paso, Tex.	M. E. sp.	49 Encina
Smith, Lewis Anderson	Pearce, Ariz.	Geol.	Theta Xi
Smith, Martha Emily A. B., Stanford, 1920.	San Luis Obispo	Econ.	227 Roble
Smith, Mary Norris	Palo Alto	Engl.	1335 Cowper-p
[5]Smith, Phoebe Marcella	Hermosa Beach	Econ.	Delta Delta Delta
Smith, Richard Chatfield	New York,N.Y.	Engl.	14 Salvatierra
[1]Smith, William Anton A. B., Willamette, 1909, Ph D., 1916.	Hillsboro, Ore.	Educ. gr.	643 High-p
[12]Smitherum, Edgar A. B., Stanford, 1920.	San Jose	C. E.	116 Encina

Snedden, Donald	Yonkers, N.Y.	M. E.	364 Encina
Snedden, Hope	Yonkers, N.Y.	PreN.	181 Roble
[23]Snell, Gerald I.	Galt	M. E.	523 Encina
Snow, Abby Joy	Boise, Ida.	M. E.	246 Encina
Snow, William Boring	New York, N.Y.	M. E.	44 Sequoia
Snyder, Chester Delmont	Lamar, Colo.	Econ.	54 Sequoia
[3]Snyder, Dee Deno	Los Angeles	Econ.	Encina
[12]Snyder, Howard Ogier	Denver, Colo.	M. E. gr.	228 Encina
A. B., Stanford, 1919, Engineer, 1920.			
[12]Sorensen, Einar Ralph	San Jose	Educ.	505 S. 5th, SJ-sj
A. B., Stanford, 1920.			
Sortor, Charles Holland	Tulare	M. E.	50 Encina
Southwell, Wm. Lee	American Falls, Ida.	Econ.	355 Encina
de Souza, Luis Jose	Quepem, Goa, India	Hist.	441 Waverley-p
[14]Souza, Manuel E.	San Luis Obispo	C. E.	318 Emerson-p
Spare, Edith Claire	Los Angeles	Fr. gr.	Madroño
A. B., California, 1919; A. M., Stanford, 1920.			
[5]Sparling, Edward James, Jr.	Hollister	Econ.	Alpha Delta Phi
Spaulding, Harold Sheerer	Harper	M. E.	22 Sequoia
Spaulding, Ruth Isabel	Palo Alto	Econ.	528 Channing-p
Spears, Julia Buckner	Dallas, Texas	Engl.	19 Salvatierra
[5]Spencer, Lawrence Milton	Fellows	Geol.	Phi Kappa Psi
[2]Spickard, Harold Ewing	Oakland	Geol.	109 Encina
A. B., Stanford, 1920.			
Spielman, John Van V.	Long Beach	C. E.	405 Encina
Spiers, Robert Joshua	Middletown	Geol.	Kappa Sigma
Spilman, Elizabeth Brewer	San Mateo	Econ.	Kappa Alpha Theta
[234]Sponsler, Olenus Lee	Palo Alto	Bot. gr.	330 Embarcadero-p
A. B., Michigan, 1910; A. M., Nebraska, 1912.			
[4]Sponsler, Selden R.	Ann Arbor, Mich.	Chem. gr.	330 Embarcadero-p
A. B., Michigan, 1910; A. M., Nebraska, 1912.			
[5]Spratley, John Walter, Jr.	Palo Alto	Geol.	Phi Kappa Sigma
Sprott, Mary Esther	Porterville	Hist.	Gamma Phi Beta
A. B., Stanford, 1920.			
Sproull, Henry Franklin	Pittsburg	Chem.	Beta Theta Pi
[5]Spurlock, Horace Eldred	Covelo	Geol.	417 Encina
Squire, Helen Richardson	Palo Alto	Span.	900 University-p
A. B., Stanford, 1920.			
[5]Squires, Anita Marian	Los Angeles	Math. gr.	264 Roble
A. B., Stanford, 1920.			
[2]Stackpoole, Edward Vivian	Roseville	Chem.	200 Encina
[1]Stacy, Kenneth Nymphas	San Jose	Econ.	318 N. 6th, SJ-sj
[5]Stamp, Wade Moore	Long Beach	Law	232 Encina
[5]Stanbery, William Barber	Los Angeles	Econ.	Sigma Alpha Epsilon

Stanley, Camillus Russell	Palo Alto	M. E.	269 Hawthorne-p
[12]Stanley, George Elmer	Palo Alto	Geol.	269 Hawthorne-p
Stanley, Helen Marjorie	San Jose	Engl. gr.	771 Asbury, SJ-sj
A. B., College of the Pacific, 1919.			
Stanton, Elna Cecilia	Avalon	Engl.	Alpha Phi
Stark, Herbert Spencer	Palo Alto	M. E.	500 Melville-p
Starkey, Charles Ward	Whittier	Chem.	El Camino
Starkey, Harold Bellamy	San Diego	Law	Chi Psi
Starks, Dorothy Johanna	Palo Alto	Zool.	1115 Ramona-p
[4]von Stein, Mary Gertrude	Pomona	Math. gr.	236 Roble
A. B., Stanford, 1919.			
[12]Steinbeck, John Ernest, Jr.	Salinas	Engl.	111 Encina
Steinbeck, Karl Griswold	Hollister	M. E.	126 Encina
A. B., Stanford, 1920.			
Steindorf, Stanley Archie	Campbell	Econ.	216 Encina
[5]Steineke, Max	Brookings, Ore.	Geol.	407 Encina
Steinmetz, Ruth Lolita	Palo Alto	Span.	1021 Ramona-p
Stelling Emma Gladys	San Jose	Ed. G. A.	Alpha Omicron Pi
Stephens, Ariel Naomi	Long Beach	Econ.	360 Roble
[4]Stephens, Leroy Hamilton	Berkeley	Span. gr.	Los Altos-la
A. B., Stanford, 1902, A. M., 1903.			
[1]Stephenson, Paul Richard	Ringwood,Ill.	Engl.	350 Encina
[12]Sterling, Marie Louise	San Jose	Hist.	145 E. San Carlos, SJ
Stern, Bert Price	Redondo Beach	Chem.	305 Encina
Stern, Ruth Esther	Portland, Ore.	Econ.	259 Roble
[4]Stettheimer, Barbara	Redwood City	Fr.	Redwood City-rc
[1]Stevens, Julia Rose	Palo Alto	Hist.	926 Cowper-p
Stevens, Russell Brennan	Healdsburg	Hist. gr.	El Camino
A. B., Stanford, 1919.			
Stevenson, Doris Maude	Alhambra	Chem.	Chi Omega
Stevenson, Robert Clifford	Boise, Ida.	C. E.	244 Encina
Stevenson, William C.	Boise, Ida.	M. E.	246 Encina
[1]Stewart, Charles Alfred	Cowiche, Wn.	Geol.	87 Sequoia
Stewart, Coleman Everett	Santa Barbara	Law	44 Encina
Stewart, Duncan	Calgary, Canada	Chem.	68 Sequoia
Stewart, Francis Samuel	San Diego	Chem.	447 Encina
Stewart, Hugh	Escondido	M. E. gr.	227 Encina
A. B., Stanford, 1919.			
Stewart, Kenneth Norman	Eureka	Engl.	48 Sequoia
[5]Stewart, Marian Bernice	Stockton	Ed. G. A.	328 Roble
[12]Stewart, Muriel	Phoenix, Ariz.	Engl.	340 Roble
Stice, Robert Henry	Red Bluff	Econ.	Phi Kappa Sigma
Stillwell, Rachel Nita	So. Pasadena	Engl.	111 Roble

[5]Stipp, Thomas Franklin	Ukiah	Geol.	425 Encina
Stocklmeier, Alfonso J	Cupertino	C. E. gr.	Cupertino-c
A. B., Stanford, 1920.			
Stockton, Andrew B.	Grangeville, Ida.	Chem.	410 Lytton-p
Stockton, James Leroy	San Jose	Educ. gr.	St.Norm.Sch.,SJ-sj
A. B., Columbia, 1906, A. M., 1907; Ph. D., Stanford, 1920.			
Stoddard, Dower Kenneth, Jr.	Merced	Econ.	Delta Upsilon
Stoddart, Leland Kling	Hollywood	Hist.	19 Salvatierra
[4]Stolle, Helen	Palo Alto	Engl. gr.	807 Waverley-p
A. B., Stanford, 1908.			
[5]Stolz, Harry Phillip	San Mateo	Geol.	Theta Xi
[12]Stonebraker, William J.	Redwood City	C. E.	823 Arguello, RC-rc
Stoner, Robert Royer	Redcliff, Canada	Zool.	Kingscote
[12]Storm, Hans Otto	Anaheim	M. E.	401 Encina
A. B., Stanford, 1920.			
Stovall, William Bryon	Philomath, Ore	Engl.	430 Encina
[12]Strain, Herbert Gerald	Palo Alto	M. E.	945 Webster-p
Stratton, George James	Palo Alto	Econ.	Delta Chi
Strauss, John Sidney	San Francisco	Geol.	305 Encina
Strawser, Helen Ruth	San Bernardino	Math.	Pi Beta Phi
A. B., Stanford, 1920.			
Stray, George Rose	Campbell	M. E.	5 Sequoia
[5]Streshly, Stuart	Azusa	Phyl.-Med.	324 Encina
Strickler, Dewey Loyal	Mountain View	Pol. S.	Mountain View-mv
Strong, Elizabeth	Albuquerque, N. M.	Hist.	150 Roble
Strouse, Clarence A., Jr.	NewYork,N.Y.	Chem.	121 Encina
Struble, Homer Pearson	Penryn	Chem.	707 Melville-p
[2]Stuart, Archer Bell	Palo Alto	E. E. gr.	621 Gilman-p
A. B., Stanford, 1916.			
[1]Sturgeon, James Leonard	Monrovia	Econ.	426 Encina
Sturgeon, John A. H.	Monrovia	Law	431 Encina
Sturges, Edward Keith	San Jose	Zool.	49 E. Empire, SJ-sj
Sturm, Franz	Hoquiam,Wn.	Chem.	59 Encina
Sullivan, Willard Edmond	So.SanFran.	Chem.	19 Salvatierra
[1]Summerfield,VernonDouglas	Reno,Nev.	Pol. S.	428 Encina
[1]Supple, Cornelius F., Jr.	So. Pasadena	Econ.	401 Encina
[5]Supple, Frederic Edward	So. Pasadena	Law. gr.	530 Encina
A. B., Stanford, 1917.			
Sutch, Arlington Rutledge	Los Angeles	M. E.	Zeta Psi
Sutherland, Hugh Sanford	Los Angeles	Engl.	Kappa Alpha
Suttle, Henry McKie	Viroqua, Wis.	Chem.	218 Encina
[5]Sutton, Thomas Leonard	Oakland	Phyl.	Alpha Tau Omega
[23]Suzuki, Eiryo	Ibaraki, Japan	Bot. gr.	Japanese Club
Tokyo Imperial University, 1910.			

[3]Suzuki, Takehiro Tokyo Imperial University.	Japan	Bact. gr.	Japanese Club
Swacker, Gladys Grace	GrantsPass,Ore.	Econ.	161 Roble
Swanholm, Keith Henry	Boise, Ida.	C. E.	424 Encina
[12]Swarts, Clifton Ray A. B., Stanford, 1920.	Hermosa Beach	Geol.	Alpha Tau Omega
[5]Sweeney, John Paul A. B., Stanford, 1920.	Phoenix, Ariz.	Med. gr.	432 Encina
Sweeney, Stender Joseph	Los Angeles	Geol.	Phi Kappa Sigma
[6]Sweet, Clytie	Palo Alto	Econ.	281 Everett-p
[23]Swendsen, Harold George	Westhaven	Econ.	Sigma Chi
[12]Swett, Harold David	Palo Alto	Econ.	908 Boyce-p
[5]Swett, Wilber Frank A. B., Stanford, 1917.	Palo Alto	Med. gr.	2105 Pine, SF-sf
Swift, Charles, Jr.	Sacramento	M. E.	208 Encina
[5]Swinford, William B. A. B., Harvard, 1900.	Stillwater, Okla	Law gr.	435 Forest-p
Swithenbank, Grace Martha	San Jose	Fr.	86 Fox, SJ-sj
Taber, Anna Florine A. B., Stanford, 1920.	Palo Alto	Econ.	939 Cowper-p
[1]Taber, Joseph M.	San Francisco	Chem.	282 University
[12]Taber, Louise Everett A. B., California, 1914; M. D., Stanford, 1920.	San Francisco	Med. gr.	1940 Webster, SF-sf
[12]Tabor, Beatrice Carroll A. B., Wisconsin, 1917; A. M., Stanford, 1919.	Escondido	Ed.G.A.gr.	KappaAlphaTheta
Taff, Charles Leverett	Palo Alto	Phyl.	628 Cowper p
[12]Taff, Katharine Elizabeth	Marfa, Tex.	Engl.	628 Cowper-p
[12]Taft, Alan Cowie	Arcadia, Wis.	Engl.	309 Encina
[12]Takahashi, Hideo	Los Angeles	M. E.	Japanese Club
Takahashi, Matsuta A. B., Stanford, 1919.	Montebello	Med. gr.	2111 Pine, SF-sf
[23]Takeyama, George Yogoro	Los Angeles	Phyl.-Med.	2111 Pine, SF-sf
[5]Talbert, Paul Houston	Ft. Worth, Tex.	Geol.	362 Encina
[1]Talboy, Della Irene A. B., Stanford, 1914.	Palo Alto	Lat. gr.	311 Middlefield-p
Talmage, Ralph Houston	Redwood City	M. E.	531 Fuller, RC-rc
Tamplin, William Ward	Palo Alto	Geol.	652 Forest-p
Tashima, Hideo Robert	Los Angeles	M. E.	Japanese Club
Taubman, George Primrose A. B., Occidental, 1919.	Long Beach	Law. gr.	Chi Psi
Tauzer, Clarence Jaurgen	Santa Rosa	Law	15 Encina
Tavernetti, Lena Elvira	Salinas	Bact.	382 Roble
[1]Tayler, Marjorie	San Mateo	Fr.	318 Elm, SM-sm
Taylor, Albert Wm.	Palo Alto	Econ.	Delta Chi

[4]Taylor, Barbara Marie	San Rafael	Math.	225 Roble
Taylor, Della LaRue	Los Angeles	Engl.	Roble
[124]Taylor, Dwight Warren	Los Angeles	Engl.	32 Sequoia
Taylor, Quimby Whitley	Montevallo,Mo	Chem.	Delta Chi
[4]Teakle, Thomas	Spokane, Wn.	Hist. gr.	650 Waverley-p
A. B., Iowa, 1911.			
Tedford, Marguerite	Santa Ana	Econ.	Roble
Tell, David Eugene	Turlock	M. E. sp.	449 Encina
Templeton, John Wesley	Downey	Min. gr.	532 University-p
A. B., Stanford, 1918.			
Templeton, Robert Lyman	Downey	Law	Encina Gym
Templin, Ernest Hall	Rupert, Ida.	Fr.	12 Sequoia
Terman, Frederick E.	Stanford Univ.	Chem.	9 Dolores
A. B., Stanford, 1920.			
Terrill, Josephine Adelaide	Los Angeles	Engl.	Kingscote
[4]Terzian, Haroutune Artens	San Fran.	Chem.	Encina
[2]Teubner, Charles William	Los Angeles	Econ.	Phi Kappa Sigma
[5]Texeira, Anthony	San Jose	M. E.	902 S. 10th, SJ-sj
Thain, Alexander	Mayfield	C. E.	Mayfield-m
Thalheimer, Joseph J., Jr.	Phoenix, Ariz.	Engl.	225 Encina
Thalheimer, Ulrich S.	Phoenix, Ariz.	M. E. gr.	225 Encina
A. B., Stanford, 1920.			
Thayer, Alfred Harwood	Upland	M. E.	45 Encina
[1]Thayer, Wheeler Hall	San Francisco	Chem.	Zeta Psi
Thomas, Earle Alling	Pasadena	Geol.	113 Encina
Thomas, Frank Newton, Jr.	Pasadena	Econ.	16 Encina
A. B., Stanford, 1920.			
[5]Thomas, Gerald C.	Imperial	Law	520 Encina
Thomas, Thomas Andrew	Palo Alto	Econ.	1048 Webster-p
Thomas, Victor Ellsworth	Puente	Phyl.	110 Encina
Thompson, Georgia	Moro, Ore.	Hist.	Sigma Kappa
[1]Thompson, Harry Smith	Sacramento	M. E.	509 Encina
[1]Thompson, Jane Mary	So. Pasadena	Bact.	2620 Sac'to, SF-sf
A. B., Stanford, 1920.			
[5]Thompson, J. R. Gaver	Los Angeles	Econ.	Kappa Alpha
Thompson, Leonard R.	Everett, Wn.	Med. gr.	2105 Pine, SF-sf
B. S., University of Washington, 1916.			
[1]Thompson, Lloyd Lyman	Aromas	Geol.	6 Sequoia
[23]Thompson, Lynn Ira	Los Angeles	Law	137 Encina
[5]Thompson, Mildred I. B.	Portland, Ore.	Engl.	176 Roble
Thompson, Percy Vernon	Los Angeles	Med. gr.	529 Encina
A. B., Stanford, 1920.			
[4]Thompson, Signe Esther	Oleander	Span. gr.	225 Roble
A. B., California, 1911, A. M., 1912.			

Thomson, Major George	Palo Alto	Chem.	731 Emerson-p
[5]Thomson, Mildred	Atlanta, Ga.	Educ. gr.	Madroño
A. B., Agnes Scott College, 1910.			
Thomson, William Lyon	Modesto	Phys.	319 Encina
[34]Thornton, Walter Daniel	San Jose	Econ.	243 N. 13th, SJ-sj
[234]Thralls, Warren H.	Wellington, Kan.	Geol.	418 Ramona-p
[5]Thrash, Jessee Emmett	Los Gatos	Econ.	Sigma Chi
[4]Thurber, Minnie Josephine	Los Angeles	Educ.	211 Roble
[2]Thurlby, Grice Wade	Salinas	Econ.	Alpha Delta Phi
[5]Thygeson, Elling	Palo Alto	Phyl.	222 Kingsley-p
Tilden, Heber Voorman	San Francisco	Geol.	Phi Delta Theta
Timpany, Charles Russell	Santa Clara	Chem.	1367 Lexington, SC-sc
[12]Tindall, Verne L.	Stuttgart, Ark.	M. E.	481 Lytton-p
A. B., Stanford, 1920.			
[5]Titus, Charles Hickman	Oakland	Econ. gr.	226 Encina
A. B., Stanford, 1920.			
Titus, Henry Sherley	Riverside	M. E.	21 Encina
[4]Toft, Alice	Mountain View	Engl.	Mountain View-mv
[1]Toft, George William	Mountain View	Phyl.	Mountain View-mv
Togasaki, Kazue	San Francisco	Zool.-Med.	357 Roble
A. B., Stanford, 1920.			
Toland, Homer	Dallas, Tex.	Econ.	22 Lasuen
Tolman, Mary	Belfry, Mont.	Chem.	Alpha Phi
A. B., Stanford, 1920.			
[5]Tomlinson, Irene	Los Angeles	Sch. Ed. gr.	248 Roble
A. B., Occidental, 1918.			
[12]Townley, Mary Isabel	Stanford Univ.	Econ.	33 Salvatierra
Townsend, Arthur Irving	Cupertino	Law	Delta Upsilon
Trago, Eugene Nickey	Santa Ana	Geol.	Theta Delta Chi
Travis, Leon Edgar	Tarentum, Pa.	Econ.	1327 Byron-p
[5]Tresidder, Donald Bertrand	Tipton, Ind.	Med. gr.	603 Waverley-p
A. B., Stanford, 1919.			
[5]Trimble, Sinclair George	San Francisco	Engl.	245 Encina
Triplett, Carl Eugene	Ceres	Econ.	51 Sequoia
[234]Triplett, Vernon William	Ben Lomond	Geol. sp.	176 Bryant-p
[4]Tripp, Lawrence Ernest	SaltLakeCity,U.	Law. gr.	Sigma Chi
LL. B., Utah, 1920.			
[1]Trist, Carl Edmund	Burlingame	M. E.	1544 Ralston, B-b
Trist, Marian Abigail	Palo Alto	Fr.	375 Everett-p
Tritle, Lloyd Hereford	Phoenix, Ariz.	Econ.	Delta Chi
[23]Troxel, Elmer Ray	Chico	Pol. S.	440 Cowper-p
Troxell, Harold Coble	Los Gatos	C. E.	103 Edelen, LG-lg
[5]Trueman, Harold S.	Munising, Mich.	Pre-Clin.	759 Middlefield-p

[3]Trummer, David Joseph	Hayward	C. E. sp.	106 Encina
[4]Truscott, Harrison Franklin	San Jose	Phil.	422 N. 5th, SJ-sj
Tsubakida, Takuso	HiroshimaKen,Japan	Geol.	Japanese Club
[2]Tucker, Ernest Fanning, Jr.	Portl'd,Ore.	Educ. G. A.	Chi Psi
[5]Tucker, John Arthur	Florence, Kan.	Law	Kingscote
Tucker, Robert Milton	Santa Barbara	M. E.	38 Sequoia
Tully, Esther Carol	Modesto	Fr.	154 Roble
Tupman, Thomas Hilton	Los Angeles	M. E.	Stanford Union
[4]Tupper, Charles Ralph	San Jose	Educ. gr.	211 S. 8th, SJ-sj
A. B., Stanford, 1913.			
Turner, Edmond Sewall	Portland, Ore.	Econ.	Alpha Delta Phi
A. B., Stanford, 1920.			
Turner, Frank Seymour	San Francisco	Law	Zeta Psi
[5]Turner, Warren Mortimer	Riverside	Econ.	Sigma Alpha Epsilon
Tussing, Ford Marlow	So. Pasadena	Econ.	Delta Tau Delta
Tuthill, David Bogert	Saratoga	Geol.	Saratoga-s
Tuthill, Mary Van Wyck	Saratoga	Econ.	Delta Delta Delta
A. B., Stanford, 1920.			
Tutman, Baldo Joseph	Mountain View	Geol.	Mountain View-mv
[5]Twombly, Harriet Elizabeth	San Fran.	Med. gr.	2442 Sac'to, SF-sf
A. B., Stanford, 1908.			
Tyler, Arthur Robert	Pomona	C. E.	85 Sequoia
Uchizono, Tomosuke	Kagoshima, Japan	Chem.	Japanese Club
A. B., Stanford, 1920.			
Umphreys, Meta Vivian	Palo Alto	Fr.	342 High-p
[5]Uppman, Ingegerd Marie	Santa Clara	Sch.Ed.gr.	1559Har's'n,SC-sc
A. B., Stanford, 1920.			
Upton, Clark Camp, Jr.	Spokane, Wn.	Econ.	419 Encina
Upton, Leland Bickford	Spokane, Wn.	Engl.	419 Encina
Urdaneta de la Tour, M.	Venezuela,S.A.	Chem.	238 Encina
Utahara, Frank Sadaji	San Francisco	M. E.	Japanese Club
Van Bebber, Alvin Wesley	Petaluma	M. E.	123 Encina
[5]Vance,DonaldWilliam	Whitewater,Wis.	Chem.	81 Sequoia
[5]Van Clief, Harold Maxwell	Lompoc	Geol.	223 Encina
Vandervort, Charles T.	Stanford Univ.	Law. gr.	347 Encina
A. B., Stanford, 1919.			
[23]VanEvery, Dale Byron	Petoskey,Mich.	Hist.	249 Encina
A. B., Stanford, 1920.			
Van Gorden, Evelyne Lorraine	Palo Alto	Ed. G. A.	535 Everett-p
Van Gundy, Ross G.	San Jose	Chem.	93 Fuller, SJ-sj
[5]Van Norman, Louina M.	Los Angeles	Engl. gr.	Madroño
A. B., Wisconsin, 1915.			
Van Pelt, Reuben Griffith	Oakland	Chem. gr.	334 Encina
A. B., Stanford, 1920.			

[4]Van Winkle, Grace Irene	Vona, Colo.	Educ. gr.	240 Roble
A. B., Colorado Teachers' College, 1918.			
[1]Varian, Russell Harrison	Halcyon	Phys.	348 Encina
Vartanian, Araxie Arpie	Turlock	Lat.	205 Roble
[12]Vasché, John Harold	Oakland	Phyl.	359 Emerson-p
[134]Vaughan, Bertha	Hanford	Engl.	Kappa Alpha Theta
Vaughan, Howard Keith	Palo Alto	M. E.	1129 Emerson
Vaughan, Samuel Edson	Santa Barbara	M. E.	49 Sequoia
[4]Vaughn, Gerald Oliver	Palo Alto	M. E.	454 Forest-p
[1]Veale, Mortimer Belshaw	Martinez	Law	116 Encina
[1]Velie, Elizabeth Caroline	Porterville	Math.	Gamma Phi Beta
[12]Venator, Louis Cooksey	Los Angeles	Geol.	22 Alvarado
Venske, Harold Henry	Glendale	Econ.	542 Encina
Venske, Myrtle	Glendale	Sch. Ed. gr.	246 Roble
A. B., Stanford, 1919.			
[4]Vertrees, May	Fullerton	Span. gr.	Roble
A. B., Stanford, 1918.			
Vesco, George	Dawson, Y. T.	M. E.	221 Encina
Vial, Robert Duncan	Portland, Ore.	M. E.	Phi Delta Theta
[5]Vickery, Frederick Paul	Palo Alto	Geol. gr.	1228 Byron-p
B. S., California, 1905; A. M., Stanford, 1919.			
Vietor, Lynn Albert	Eureka	M. E.	Phi Kappa Sigma
[4]Vineyard, Marguerite	Oakland	Engl.	259 Roble
Voerge, Maurine Grace	Cleburne, Tex.	Span.	228 Roble
[12]Vogel, Carlos Edward	San Francisco	Econ.	2900 Vallejo, SF-sf
Vogt, Carl J.	Modesto	M. E.	50 Sequoia
[12]Voorhees, Glenn Lavar	Manti, U.	Med. gr.	57 Sequoia
B. S., Utah Agricultural College, 1916.			
Voris, Ruth Irene	Palo Alto	Pol. S.	404 Everett-p
A. B., Stanford, 1920.			
Vosburgh, William H.	StatenIsland,N.Y.	Psych.	201 Encina
Vreeland, Marion Elizabeth	San Diego	Engl.	Sigma Kappa
[34]Vrooman, Vernon Abram	Reno, Nev.	Law	347 Ramona-p
[23]Waddell, James Benjamin, Jr.	Fresno	Chem.	Redwood City
[23]Wadsworth, Harry Albert	Oakland	Engl.	Delta Chi
[5]Wait, Alvin L.	Elverta	Econ. sp.	52 Sequoia
[5]Waite, Marguerite Caroline	Hemet	Fr. gr.	180 Roble
A. B., Pomona, 1919.			
[34]Waldraff, Paul Herman	San Mateo	M.E.gr.	R.D.1, Box26,SM-sm
A. B., Stanford, 1910; Engineer, 1911.			
Walker, George Hall	Palo Alto	M. E.	209 Kipling-p
Walker, George Mansfield	Palo Alto	Econ.	141 Encina
[4]Walker, James Alvin	Marina	Educ.	442 S. 8th, SJ-sj

[12]Walker, Sanford Dole	Maui, T. H.	C. E.	205 Encina
Wallace, Davis McOuat	Palo Alto	Geol.	1102 Ramona-p
Wallace, Elizabeth	Palo Alto	Span.	1102 Ramona-p
[5]Wallace, James McOuat	Palo Alto	Law. gr.	1102 Ramona-p
A. B. Stanford, 1917.			
[12]Wallace, James Scott	Lethbridge, Can.	Law	Chi Psi
Wallace, Whittier Worthington	SanJose	Math.	857 S. 2nd, SJ-sj
Walsh, Dorothy Leeds	San Mateo	Span. gr.	Kappa Alpha Theta
A. B. Stanford, 1919.			
Walsh, Mona Desmond	Redwood City	Fr.	344 Roble
[5]Walter, Mildred	Menlo Park	Fr.	Menlo Park-mp
Walter, Paul Alfred F., Jr.	SantaFe,N.M.	Engl.	Alpha Sigma Phi
[4]Walters, Blanche Black	Emmetsburg,Ia.	Educ. gr.	103 Roble
A. B., Iowa State Teachers' College, 1913.			
Walther, Theodore Roosevelt	San Diego	Chem.	447 Encina
Walton, Howard Lacy	Ontario	Geol.	Sigma Alpha Epsilon
[4]Walton, William Theodore	Los Banos	Educ. gr.	531 Cowper-p
A. B., Puget Sound, 1905.			
Ward, Frances Baldwin	Hemet	Span.	Chi Omega
Ward, Katherine Adam	So. Pasadena	Latin	229 Roble
Ward, Murray Arthur	Los Angeles	Geol.	Kappa Sigma
Wark, Thomas Leslie	Long Beach	Geol. gr.	Beta Theta Pi
A. B., Stanford, 1920.			
Warner, Addison Wheelock	Geneva, Ill.	Geol.	Chi Psi
Warnock, Archibald W.	Palo Alto	Med. gr.	925 Middlefield-p
A. B. Stanford, 1918.			
Warren, ArthurFulton	Washington,D.C.	Med. gr.	2105 Pine, SF-sf
A. B., Stanford, 1919.			
[1]Wass, Warren Herbert	Santa Barbara	C. E. gr.	232 Encina
A. B. Stanford, 1918.			
[23]Wassum, Walter Samuel	Napa	C. E.	422 Princeton, M
[1]Watanabe, Kan-Ichi	Tokyo, Japan	Hist. gr.	Japanese Club
Kyoto Imperial University, 1914.			
Waterman, Edward Charles	Palo Alto	M. E.	567 Lytton-p
Waterman, Myra Whitney	Palo Alto	Math.	374 Kingsley-p
Watson, Charles Franklin	Palo Alto	Engl.	111 Bryant-p
[3]Watson, Charles Ledlie	Palo Alto	Geol.	1400 Webster-p
Watson, Ernest William	Sunnyvale	M. E.	500 Encina
[4]Watson, Lella B. V.	Santa Ana	Fr. gr.	Madroño
A. M., Kansas, 1915.			
Watters, Hallie	Palo Alto	Greek.	633 Channing-p
Watters, Millard Norman	Los Angeles	Pol. S.	219 Encina
Watts, Helen Constance S.	Los Angeles	Fr.	Alpha Omicron Pi
[23]Way, Herbert Frederic	Modesto	Econ.	51 Sequoia

[234]Wayland, Charles Rucker	San Jose	Law	Phi Kappa Psi
Weaver, Donald Kessler	La Porte, Ind.	Geol.	Phi Kappa Psi
Weaver, Esther Leah	Fresno	Math.	108 Roble
Weaver, Fern Agatha	Modesto	Econ.	365 Roble
Weaver, Helen Estelle A. B., Stanford, 1920.	Fresno	Hist.	110 Roble
Weaver, Landis Osborn A. B., Stanford, 1920.	Fresno	Econ.	Delta Tau Delta
Webb, Charles Wilson A. B., Stanford, 1920.	Denver, Colo.	Econ.	Alpha Tau Omega
[12]Weber, Irma Altha A. B., Stanford, 1919.	Lankershim	Sch. Ed. gr.	218 Roble
Webster, Dorothy Gertrude	Paso Robles	Law	379 Roble
[1]Webster, Locke Edward	Portland, Ore.	M. E.	Phi Gamma Delta
[5]Wedekind, Richard Eldon A. B., Stanford, 1920.	Palo Alto	Law gr.	760 Waverley-p
[5]Wedel, Sylvia Carmen A. B., Wisconsin, 1917; A. M., Stanford, 1920.	St. Louis, Mo.	Engl. gr.	160 Roble
Wegner, Walter William	Sacramento	C. E.	446 Encina
[1]Weil, Alita A. B., Stanford, 1920.	Sacramento	Ent.	Alpha Phi
[23]Weiser, Albert Drew	Dubuque, Ia.	Zool.	455 Forest-p
[12]Welch, Josephine A. B., Stanford, 1918, J. D., 1920.	Colusa	Law gr.	830 Cowper-p
Welch, Raymond Marvin, Jr.	Alta Loma	Geol.	Beta Theta Pi
[23]Weller, Douglas McE.	Milwaukee,Wis.	M. E.	Kappa Alpha
[5]Weller, John Parsons	Lowell, Mass.	Fr.	548 Encina
[1]Wellman, Eleanor Gladys	San Mateo	Fr.	Delta Delta Delta
[4]Wellman, Kingsley Stone	Los Altos	Hist.	Los Altos-la
[124]Wellman,MarionAldine	StanfordUniv.	Engl.	14 Cabrillo
[5]Wellman, Whittier Wm.	Stanford Univ.	Engl.	Sigma Chi
[12]Wells, Bruce	Portland, Ore.	C. E.	Alpha Delta Phi
[5]Wells, Clinton Fisk A. B., Stanford, 1920.	San Jose	Econ. gr.	23 Encina
[34]Wells, Earl Wilson A. B., California, 1919.	Los Angeles	Phyl. gr.	2418 Wash'n, SF-sf
[5]Wells, Edwin Adams, Jr.	San Diego	Law	Phi Delta Theta
Wells, Harrington	Stockton	Phyl.	Sigma Chi
Wells, Herbert Sessions	Maui, T. H.	Phyl.	205 Encina
Wells, Marjorie Ferguson	Pasadena	Engl.	712 Waverley-p
[1]Wells, Vance Millard	Menlo Park	Chem.	Menlo Park-mp
Wells, Willard Bruce	Portland, Ore.	C. E.	Alpha Delta Phi
Welsh, Norris Lawrence	Culver City	M. E.	Alpha Sigma Phi
[234]Welsh, Rex Earl	Menlo Park	Chem.	454 Hamilton-p

Welton, Orton Beard	Ocean Park	Hist.	Phi Kappa Sigma
[5]Wendt, Alvin William	Pasadena	Law gr.	30 Sequoia
A. B., Southern California, 1915.			
[12]Wepfer, Alfred Vincent	Berkeley	Med. gr.	9 Dolores
B. S., California, 1905.			
Wernli, John George	Los Angeles	C. E.	Theta Xi
[34]Wescott, Ruth Avery	Alhambra	Zool.	Roble
West, Alverda	Santa Ana	Econ.	323 Roble
West, Edmund Cary	Santa Ana	Engl.	30 Encina
West, Franklin Gordan	Santa Ana	Law	435 Encina
West, Nevada Loraine	Woodland	Hist.	Alpha Omicron Pi
West, William Valentine	Ontario	M. E.	39 Encina
[5]West, Z. Bertrand, Jr.	Santa Ana	Law gr.	Roble Ave., MP-mp
A. B., Stanford, 1917.			
[4]Westerman, Christian Ralph	Delta, Pa.	Phil.	441 Emerson-p
†Westlund, Gordon Carl	Kingsburg	Econ.	415 Encina
Weston, Ralph Emerson	Mayfield	Phys.	Mayfield-m
Westwick, Atwell George	Santa Barbara	Law	234 Encina
A. B., Stanford, 1920.			
[5]Whealton, Rowland G.	Long Beach	Geol. gr.	Kappa Alpha
A. B., Stanford, 1920.			
Wheaton, Frederick Sherwood	SanDiego	Econ.	Phi Delta Theta
Wheeler, Horace Edward	Pueblo, Colo.	Chem.	130 Encina
Wheeler, Oliver Percival	Petaluma	Econ. gr.	431 Encina
A. B., Stanford, 1920.			
[3]Wheeler, Roy Bradley	Mountain View	Law gr.	R.A.,Box106,MV-mv
A. B., Harvard, 1905.			
Wheelon, Albert Gifford	Santa Fe, N.M.	C. E.	119 Everett-p
Whitaker, Ruth Merritt	Stanford Univ.	Econ.	9 Alvarado
[12]Whitaker,WarrenClifford	Portland,Or.	Phyl.	Phi Delta Theta
White, Charles Eldon	Palo Alto	Chem. gr.	745 Cowper-p
A. B., Stanford, 1919.			
[1]White, George Warren	San Francisco	Sch. Ed. gr.	381 Lincoln-p
A. B., College of the Pacific, 1918.			
White, Margaret Emily	Palo Alto	Econ.	211 Roble
White, Minor	Azusa	Econ.	Alpha Sigma Phi
Whiteford, William Kepler	Los Angeles	M. E.	Alpha Tau Omega
Whitmer, Francis Eugene	Palo Alto	Econ.	334 Homer-p
[12]Whitmeyer, Raymond	Ogden, Utah.	C. E.	Beta Theta Pi
[234]Whitmire, Ethel Dorothy	San Jose	Educ.	210 S. 12th, SJ-sj
A. B., Stanford, 1907.			
Whitney, George Henry	Stockton	M. E.	Alpha Tau Omega
Whittelsey, Stuart Gordon	San Diego	Econ.	Kappa Alpha
A. B., Stanford, 1920.			

† Deceased, February 11, 1920.

Whittemore, James Absalom	Monte Rio	Chem.	38 Sequoia
Whittemore, John R., Jr.	Santa Barbara	M. E.	Phi Delta Theta
Whittier, Florence Oliver	MenloHeights	Chem.	Kappa Alpha Theta
[23]Whittier, WinifredCaldwell A. B., Stanford, 1895.	MenloHgts.	Law gr.	Menlo Heights
Wickersham, Harry P. A. B., Stanford, 1920.	Los Angeles	M. E.	Kappa Sigma
Wickersham, Zelda Louise A. B., Stanford, 1920.	Palo Alto	Fr.	Sigma Kappa
Wiedemer, Maurice Becht	Norwood, O.	M. E.	11 Sequoia
Wiel, Robert Lewis	San Francisco	Hist.	535 Encina
[4]Wight, Margaret Virginia	Palo Alto	Econ.	537 Hamilton-p
[5]Wilbur, Blake Colburn	Stanford Univ.	Phyl.	Lagunita Knoll
[4]Wilbur, Dwight Locke	Stanford Univ.	Phyl.	224 14th, Pac. Grove-pg
Wilbur, Edna May	San Francisco	Fr.	114 Roble
Wilbur, Lyman Dwight	San Francisco	C. E.	310 Encina
Wilcox, Chester Arthur	Pasadena	M. E.	Chi Psi
†Wilcox, Edwin Harold	Anthony, Kan.	Law	Delta Tau Delta
Wilcox, Lucy Marion	Los Angeles	Hist.	322 Roble
[2]Wilde, Herbert Russell A. B., Stanford, 1920.	Shanghai,China	M. E.	Vendome Hotel, SJ-sj
[124]Wilder, Floyd William	Newburgh,Ind.	M. E.	81 Sequoia
Wildman, Mary Frances	Stanford Univ.	Econ.	361 Roble
[23]Wiles, George Webster	Oakland	C. E.	46 Sequoia
[4]Wilhelmson, Carl	Homestead Valley	Engl. sp.	205 Encina
Wilke, John Howard	Los Angeles	C. E.	Beta Theta Pi
[1]Wilkie, Charles Daniels	Los Angeles	Econ.	Delta Tau Delta
[4]Wilkonson, Myrtle A. B., Oklahoma, 1918.	Sapulpa, Okla.	Math. gr.	256 Roble
Willcox, John Frederic	Redwood City	M. E.	Redwood City-rc
Williams, Alan Haynes	Longvale	M. E.	327 Emerson-p
Williams, Arthur Lionel	Portland,Ore.	M. E.	424 Encina
[1]Williams, Audrey Clark	Hollywood	Econ.	Phi Gamma Delta
[12]Williams, Ernest Elias A. B., Stanford, 1917, J. D., 1920.	San Jose	Law. gr.	472 S. 12th, SJ-sj
[124]Williams, Fleta Hazel A. B., Stanford, 1920.	Higginsville,Mo.	Chem. gr.	1 Arguello
Williams, Florence Iola	Madera	Engl.	272 Roble
Williams, Frances Harriet	Lewiston,Ida.	Hist.	257 Roble
[1]Williams, Fred Delos	Porterville	Bot.	45 Encina
[124]Williams, Helen Edith	San Diego	Econ.	158 Roble
Williams, John Wesley, Jr.	Hollywood	M. E.	Phi Gamma Delta

† Deceased, January, 1920.

[4]Williams, Kathryn Jarman	San Jose	Educ.	160 Roble
[234]Williams, Kendall	Owensboro, Ky.	Engl.	22 Lasuen
Williams, Lois Irene	Montrose, S. D.	Econ.	348 Roble
A. B., Stanford, 1920.			
[1]Williams, Louise Brown	Palo Alto	Econ.	1129 Cowper-p
[5]Williams, Philip Samuel	Ontario	Chem. gr.	481 Lytton-p
A. B., Stanford, 1920.			
Williams, Thomas Bertram	San Gabriel	Phyl.	Alpha Tau Omega
[12]Williamson, George Wm.	Atkinson, Neb.	Engl.	Alpha Tau Omega
A. B., Stanford, 1920.			
Williamson, Helen Lucile	Berkeley	Med. gr.	2620 Sac'to, SF-sf
A. B., Stanford, 1918, A. M., 1920.			
[12]Williamson, Joseph Fred'k	Sebastopol	M. E.	508 Encina
A. B., Stanford, 1920.			
Williamson, Roy Franklin	Sebastopol	Econ.	Univ. Park
[5]Willis, Cornelius Grinnell	Stanford Univ.	Chem. gr.	5 Lasuen
A. B., Stanford, 1920.			
Willis, Frances Elizabeth	Redlands	Hist.	301 Roble
A. B., Stanford, 1920.			
[234]Willis, Robin	Stanford Univ.	Geol. gr.	5 Lasuen
A. B., Stanford, 1920.			
[5]Wills, Vesta Clyment	Los Angeles	Econ.	222 Roble
Wilson, Dorothy Whedon	Monrovia	Engl.	350 Roble
Wilson, Ernest Archibald	Hollister	Econ.	416 Encina
Wilson, Francis Eugene	Stanford Univ.	Econ.	Phi Gamma Delta
Wilson, Gerald Wyeth	San Bernardino	Econ.	15 Salvatierra
Wilson, Gerard George	San Jose	Chem.	421 Encina
Wilson, Guy C.	San Francisco	Phil.	350 Encina
[4]Wilson, Ira Carrell	Ashland, Ore.	Educ. gr.	121 Encina
B. S., George Peabody, 1918.			
[12]Wilson, Joseph Harry	Vallejo	M. E.	428 Encina
[1]Wilson, Leslie Edwin	Helena, Mont.	Econ.	120 Encina
Wilson, Ruth Eleanor	Hebron, Neb.	Engl.	375 Roble
Wilson, Wendell Rogers	Fort Barry	C. E.	31 Encina
Windish, Mollie	New York, N. Y.	Engl.	277 Roble
[23]Wing, Robert Lewis	Palo Alto	C. E.	345 Lincoln-p
[1]Wing, Sumner Paddock	Palo Alto	Min. gr.	166 Bryant-p
A. B., Stanford, 1914.			
Wingard, Glenn Adrian	Orange Cove	M. E.	405 Encina
Winham, Edgar Snyder	Salinas	C. E. gr.	Delta Upsilon
A. B., Stanford, 1920.			
Winham, William Pitt Leroy	Salinas	Geol. gr.	Delta Upsilon
A. B., Stanford, 1920.			
[13]Winkle, Dorothy	San Francisco	Bact.	Alpha Omicron Pi

Winklebleck, Samuel Harold	Modesto	Econ.	Delta Tau Delta
Winship, Albert Offutt	Phoenix, Ariz.	Econ.	Delta Chi
[24]Wirtz, Wilber Karl	Oakland	Zool.	110 Encina
Wisdom, Ruth	Palo Alto	Chem.	169 Waverley-p
[1]Wise, Peyton R.	San Rafael	Geol.	427 Webster-p
[1]Wislizenus, Margaret	Cebu, P. I.	Span.	Delta Delta Delta
Wisnom, Robert Freeman	San Mateo	Chem.	Chi Psi
Witherbee, Donald	Los Angeles	Phyl. sp.	Kappa Sigma
[4]Witt,GoldieLorraine	Albuquerque,N.M.	Econ.	Base Hospital-p
Woerner, Sarah Edith	Palo Alto	Engl.	453 Hawthorne-p
Wohlford, Burnet Coleman A. B., Stanford, 1920.	Escondido	Law	Delta Kappa Epsilon
[4]Wolfe, Ruth Adena	San Jose	Educ.	5 Menker, SJ-sj
[5]Wolters, Sophia Juliane A. B., Stanford, 1902.	San Francisco	Ger. gr.	R.112,MenloPark-mp
Wolverton, Ethel T. B. S., Northwestern, 1919.	Lafayette, Ind.	Med. gr.	280 Roble
Wood, D. Edmund	Ogden, Utah	Econ.	Phi Kappa Psi
[4]Wood, Frederick G. C. B. A., McGill, 1910; A. M., Harvard, 1915.	Vancouver,B.C.	Engl. gr.	20 Lasuen
[1]Wood, Gardner Porter	Palo Alto	Law	1220 Byron
[5]Wood, Granville Numan, Jr. LL. B., Stanford, 1913, A. B., 1920.	Mayfield	Med. gr.	Mayfield-m
Wood, Inez A. B., Stanford, 1920.	Oakdale	Engl.	175 Roble
Wood, Margaret A. B., Stanford, 1920.	Los Angeles	Engl.	Pi Beta Phi
[18]Wood, Melville Alfred	Merced	Hist.	Theta Delta Chi
Wood, Virginia A. B., Stanford, 1920.	Los Angeles	Engl.	Pi Beta Phi
[2]Woodbridge,ElizabethD. A. B., Vassar, 1907; A. M., Stanford, 1918.	StanfordUniv.	Fr. gr.	7 Alvarado
[12]Woodbury, David Oakes A. B., Harvard, 1919.	Ogonquit,Me.	M. E. gr.	Kappa Sigma
Woodhead, Dorothy P.	Los Angeles	Econ.	Roble
Woodruff,VirginiaMay	SaltLakeCity,U.	Engl.	358 Roble
[5]Woods, Leonard A. B., California, 1917.	Berkeley	Med. gr.	2321 Sac'to, SF-sf
Woodward, Ross Eardly	Spokane, Wn.	C. E.	Alpha Delta Phi
[5]Woollomes, James Paul	Whittier	Econ.	Sigma Nu
Wooster, Hiram Ferris	Vancouver,B.C.	C. E.	Phi Delta Theta
[4]Worth, Madalyn	Palo Alto	Engl.	1024 Ramona-p
Worthington, Gerald Carl	San Francisco	Geol.	415 Lytton-p

Wrenn, Heaton Luse	Burlingame	Law	Phi Delta Theta
Wright, Edward Augustine	Los Angeles	C. E.	11 Salvatierra
A. B., Stanford, 1920.			
Wright, Frank Harlow	Bakersfield	M. E.	Phi Gamma Delta
Wright, Harold Haven	Mayfield	Geol.	222 Park, M-m
Wright, Hilda Maebelle	Azusa	Engl.	103 Roble
[5]Wright, Kenneth A.	Stanford Univ.	Geol.	Zeta Psi
Wright, Milton Edgar	San Jose	Hist.	217 N. First, SJ-sj
[1]Wright, Richard Salisbury	San Jose	Econ. gr.	657 Asbury, SJ-sj
A. B., College of the Pacific, 1919.			
Wright, Robert Franklin	San Jose	M. E.	400 Encina
Wright, Russell Berkeley	Mayfield	M. E.	222 Park, M-m
[5]Wu, Hong	Hunan, China	Chem.	405 Emerson-p
[12]Wu, Hsueh Hsiao	Kunshan, China	Min. gr.	365 Channing
B. S., Pei Yang University, 1916; M. S., Carnegie Institute, 1918.			
[5]Wulff, Horace Byington	Sacramento	Law. gr.	Phi Kappa Sigma
A. B., Stanford, 1920.			
Wyatt, Bradley William	Long Beach	C. E.	39 Sequoia
[23]vanWyck, CecilJ.vanA.	TheHague,Hol.	M. E.	Delta Upsilon
Wyckoff, Harry Wilson	San Francisco	Econ.	Phi Delta Theta
[1]Wylie, James Thomas	Rotorua, N. Z.	Geol. sp.	SigmaAlphaEpsilon
[5]Yamada, So Sabro	Sendai, Japan	Med. gr.	2086 Bush, SF-sf
A. B., Stanford, 1916.			
[1]Yamate, Sasato	Hiroshima-Ken, Japan	Econ.	Japanese Club
A. B., Stanford, 1920.			
Yancey, John Garth	Liberty, Mo.	Econ.	49 Sequoia
[4]Yates, Edna Louise	Oakland	Educ. gr.	Roble
B. L., California, 1912.			
[12]Yee, Henry W.	Sacramento	C. E.	Chinese Club
[34]Yoder, Arthur Elias	Los Gatos	Educ. gr.	327 University, LG
Pacific University, 1902.			
[1]Young, Alfred Carter	Honolulu, T. H.	Law gr.	Beta Theta Pi
A. B., Yale, 1915; J. D., Stanford, 1920.			
Young, Blanche	Weaverville	Engl.	238 Roble
Young, Dwight Dunham	Fresno	Chem.	Alpha Sigma Phi
[234]Young, George Everett	San Francisco	M. E. sp.	348 Encina
[4]Young, Harold Grant	San Francisco	M. E. sp.	Palo Alto
[2]Young, Isabelle Gibson	Albany, Ore.	Hist.	Kappa Alpha Theta
A. B., Stanford, 1920.			
[5]Young, Kimball	San Jose	Educ. gr.	221A Channing
A. B., Brigham Young, 1915; A. M., Chicago, 1918.			
[4]Young, Leo Alexander	San Francisco	Chem. sp.	Encina
Young, Wilmer Wheelon	Palo Alto	M. E.	119 Everett-p

Younglove, Helen	Riverside	Math.	Alpha Phi
Younglove, Howard Phillips	Riverside	Geol.	Beta Theta Pi
Yue, Nga Yau	Macao, China	Bot.	4 Lasuen
Zandmer, Myron Solis	Wallace,Ida.	Geol.	427 Encina
Zane, Margaret Coleman	Woodside	Econ.	RFD, Redwood C-rc
[12]Zanker, Curtner William	San Jose	Econ.	R.A., B.398, SJ-sj
Zeh, Henry Phillip	San Francisco	Chem.	304 Encina
Zeitlin, Marion Albert	Los Angeles	Fr. gr.	Madroño
A. B., Stanford, 1918, A. M., 1920.			
Zertuche, Tomas A.	Guadalajara, Mex.	Econ.	532 Encina
Zvenigrad, Abraham	Palo Alto	Hist. gr.	1329 Wavėrley-p
A. B., Stanford, 1916, A. M., 1919.			

SUMMARIES

OFFICERS

Trustees		15
Academic Council—rank of		
Professor	75	
Acting Professor	6	
Associate Professor	32	
Assistant Professor	29	
Total (less 4 absent on leave)		138
Other Teaching and Administrative Officers—rank of		
Emeritus Professor	10	
Clinical Professor	8	
Associate Clinical Professor	7	
Assistant Professor	10	
Acting Assistant Professor	3	
Assistant Clinical Professor	18	
Lecturer	24	
Instructor	40	
Acting Instructor	4	
Clinical Instructor	21	
Administrative Officer	16	
Total (less 1 absent on leave)		170
Assistants		
Instruction	24	
Administration	15	
Medical School	24	
Library	20	
Technical	21	
Total		104
Comptrollller's Office		
Assistants		46
Grand total		458

STUDENTS

	Autumn	Winter	Spring	Summer	For the Year
Graduates	283	281	298	247	483
Undergraduates	2131	1992	1802	411	2399
Special Students	37	33	50	27	67
Totals	2451	2306	2150	685	2949

By Major Subjects—For the Year

	Graduate	Under-graduate	Special	Total
Anatomy	1	1	—	2
Bacteriology and Exper. Pathology	8	20	1	29
Botany	6	22	1	29
Chemistry	35	238	5	276
Economics	15	*594	26	635
Education—	83	57	—	185
—Graphic Art	7	38	—	
Engineering—Civil	5	95	5	105
—Electrical	7	—	—	7
—Mechanical	7	260	10	277
English	41	204	4	249
Entomology	1	13	—	14
Geology	15	190	7	212
Germanic Languages	4	6	—	10
Greek	2	4	—	6
History	16	142	—	158
Latin	5	15	—	20
Law—Professional	79	†147	4	236
—Pre-Legal	—	6	—	
Mathematics	9	30	—	39
Medicine	83	‡42	—	125
Mining and Metallurgy	16	1	—	17
Philosophy	3	14	—	17
Physics	3	7	—	10
Physiology and Histology	2	94	2	98
Political Science	2	28	1	31
Pre-Clinical	—	6	—	6
Pre-Nursing	—	6	—	6
Psychology	3	16	—	19
Romanic Languages—French	10	68	1	124
—Spanish	10	35	—	
Zoology	5	41	—	46

* Also registered as Law Majors, 3.
† Also registered as Law Majors, 7.
‡ Also registered as Physiology majors, 15; as Chemistry majors, 2; as Bacteriology majors, 1; as Zoology majors, 2

By Residence—For the Year

California	2123	Philippines	12	Kentucky	1
Oregon	108	Minnesota	11	Maryland	1
Washington	94	Indiana	9	Mississippi	1
Idaho	59	New Mexico	9	Virginia	1
Arizona	47	Ohio	9	Canada	21
Colorado	38	Michigan	8	Japan	21
Utah	38	Massachusetts	5	China	10
Illinois	27	District of Columbia	4	India	6
Texas	24	North Dakota	4	Mexico	4
Missouri	23	Tennessee	4	Nicaragua	3
Nebraska	21	Alabama	3	Australia	2
Nevada	20	Connecticut	3	Brazil	2
Montana	19	Louisiana	3	Russia	2
New York	19	Maine	3	Venezuela	2
Wisconsin	19	South Dakota	3	England	1
Kansas	17	Arkansas	2	Holland	1
Oklahoma	16	Georgia	2	Ireland	1
Iowa	15	North Carolina	2	New Zealand	1
Pennsylvania	15	New Jersey	2		
Wyoming	13	West Virginia	2		
Hawaii	12	Alaska	1	Total	2949

ALUMNI ASSOCIATION

[Organized June 15, 1892]

CONSTITUTION
(As amended, 1908-20)

IN order to promote the interests of the University, to secure unity among its graduates, and to foster an attachment to our *Alma Mater,* we do hereby constitute ourselves an association to be known as the Alumni Association of the Leland Stanford Junior University.

I. MEMBERSHIP

1. All persons who have received a degree from the Stanford University are members of this Association.

2. All former students of Stanford University are associate members of this Association and shall have all rights and privileges of membership.

3. All members of the Faculty are honorary members of this Association.

II. OFFICERS

1. The officers of this Association shall be: (1) a President; (2) a Vice-President; (3) a Secretary-Treasurer; (4) an Executive Committee consisting of the Secretary-Treasurer and four other elected members, one of whom shall be designated as Chairman; and (5) an Advisory Board, consisting of the President, the Secretary-Treasurer, one representative elected by the graduating class for the term of one year, and nine elected members who shall be graduates of five years' standing, and who shall be elected for three-year terms. . . . The Advisory Board shall elect its President and Secretary.

2. All other officers shall serve for one year or until their successors are elected.

III. DUTIES OF OFFICERS

1. It shall be the duty of the President to preside at all business meetings of the Association, to deliver the President's address on Alumni Day, and to perform such other duties as usually belong to his office.

2. It shall be the duty of the Vice-President to preside in the absence of the President and to perform the other duties belonging to his office.

3. It shall be the duty of the Secretary-Treasurer to keep accurate minutes of the meetings of the Association and to act as Secretary of the Executive Committee, of which he shall be a member.

4. It shall also be the duty of the Secretary-Treasurer to have charge of the collection and disbursement of the funds of the Association.

5. The Secretary-Treasurer shall be allowed ten per cent of all dues or assessments collected, as compensation for his services.

6. It shall be the duty of the Executive Committee to arrange for the programme to be presented on Alumni Day; or any programme for other public occasions; to regulate the finances of the Association; to perform such other duties as may be imposed upon it; and to attend to all business of the Association not otherwise provided for.

7. It shall be the duty of the Advisory Board, when deemed advisable, to consult alumni, undergraduates, faculty, and trustees, and to make recommendations regarding the welfare of the University and of the Alumni Association.

IV. COMMITTEES

1. The President shall be ex-officio a member of all committees.

2. At each annual business meeting the President shall appoint a committee of two persons to audit the Treasurer's accounts.

V. ELECTIONS

1. The February issue of the *Stanford Illustrated Review* shall give notice of the annual nomination and election of officers of this Association. Said notice shall contain the names of the incumbent officers and shall indicate the hold-over members of the Advisory Board, and shall contain in full the provisions of this Constitution relating to nominations and elections.

2. Nominations in writing, signed by at least twenty members, shall be required for any nomination. Nominations shall be forwarded to the Secretary-Treasurer between the first day of February and the first day of April of each year. On or before the fifteenth day of April of each year, the Secretary-Treasurer shall mail to every member of this Association whose dues for the current year have been paid, an official ballot containing all the nominations, with the addresses of the nominees and the number of proposers of each, and said ballot shall be published in the April issue of the *Stanford Illustrated Review*, provided, however, that where no contests occur, the Secretary-Treasurer shall be empowered to cast the ballot.

3. Officers shall be elected at an annual election to be held at Stanford University on Alumni Day, between the hours of nine o'clock a. m. and twelve o'clock noon. The Executive Committee shall have charge of the election. The elector may cast a written ballot in person, or by mail addressed to the Secretary-Treasurer, marked "Ballot" and disclosing the sender's name, and enclosing a ballot in a plain envelope. Ballots so received shall be opened and cast only during the hours of election. The respective candidates receiving the highest number of votes shall be declared elected. A tie vote shall be decided by lot.

4. No one whose annual dues are in arrears for the current year shall be entitled to vote or to hold office.

VI. DUES

The dues of the Association shall be $1.25 per year for each member thereof, which amount shall include a subscription to the *Stanford Illustrated Review.*

Provided, however, that all members who, prior to May, 1908, have paid $5 shall be exempted from further dues.

VII. MEETINGS

Meetings of the Association may be called by the President or by petition of twenty members, said meetings to be held at Stanford University.

VIII. AMENDMENTS

Any proposition to alter or amend these Articles of Association must be proposed in writing, signed by twenty members, and submitted to the members by mail in printed form by the Secretary-Treasurer, and voted upon in the same manner as are nominations for officers, and adopted by a majority vote.

OFFICERS OF THE ASSOCIATION, 1919-20

President—WILLIAM HENRY BEGBIE FOWLER, '06.

Secretary-Treasurer—JOHN EZRA MCDOWELL, '00.

Executive Committee—GEORGE DE FOREST BARNETT, '06, Chairman; ROY EDWARD COLLOM, '06; ANDREW JAMES FIELD, '12; WILLIAM HENRY BEGBIE FOWLER, '06; FLORENCE W. FUNSTON, '12; JOHN EZRA MCDOWELL, '00.

Advisory Board—GEORGE ARMAND DITZ, '11, Chairman; EDITH RONALD MIRRIELEES, '07, Secretary.

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